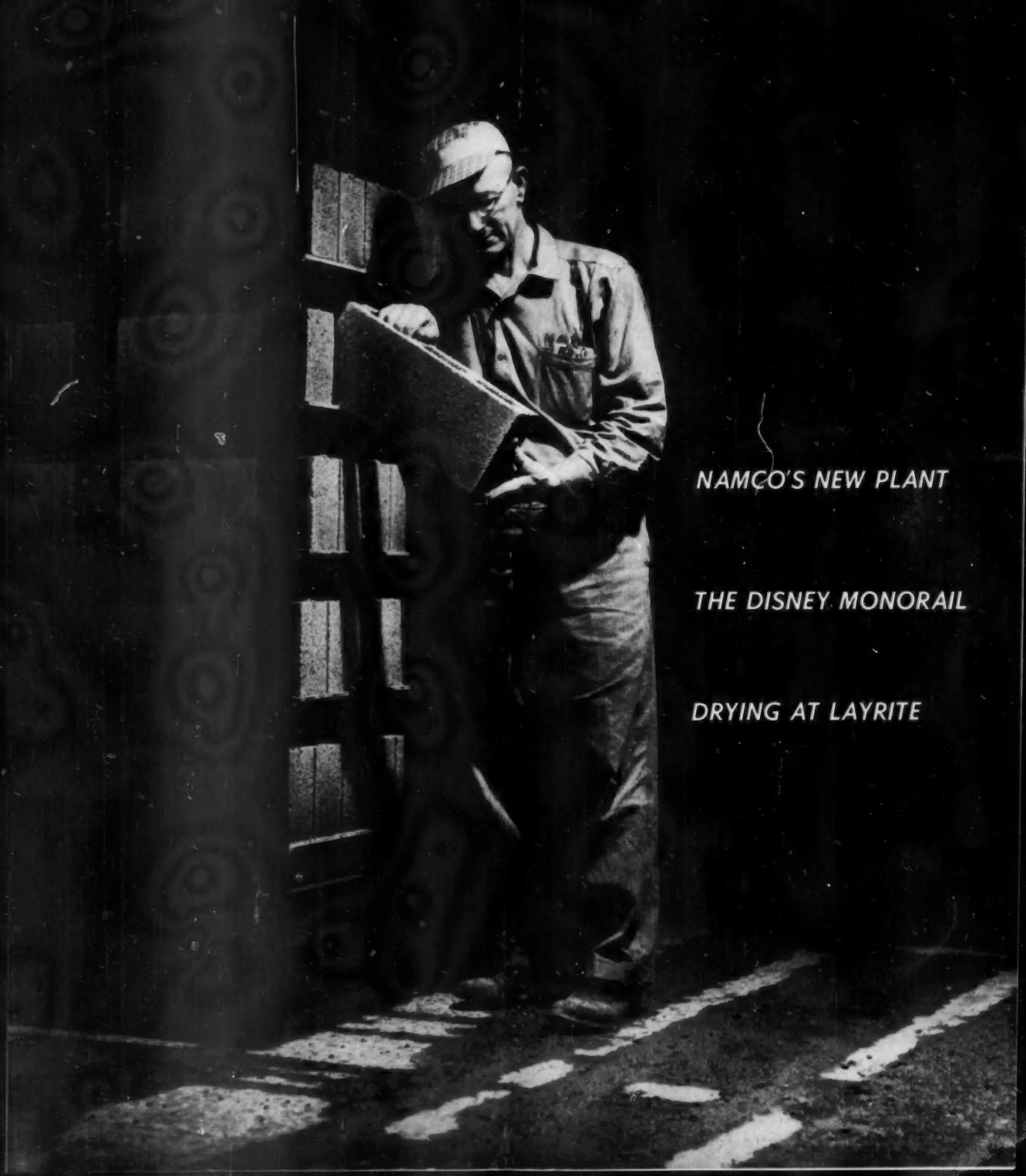
JULY 1959

CONCRETE



NAMCO'S NEW PLANT

THE DISNEY MONORAIL

DRYING AT LAYRITE

"Analysis of our test reports shows POZZOLITH gives better control of quality"

FRANK P. SPRATLEN, JR., President, Ready-Mixed Concrete Company of Denver, Denver, Colorado.

"We thoroughly analyze all the independent inspection reports and test results of our concrete delivered on specification jobs as a guide to quality control.

"A recent series of tests showed our plain concrete easily met all strength requirements . . . and had less than a 10% coefficient of variation. We have a right to be proud of that quality of concrete. And with POZZOLITH—we get 40% more uniformity . . . using the same good materials, same modern equipment and highly-trained personnel. This greater uniformity also shows up in better control of slump and air entrainment with the POZZOLITH mixes.

"I've also noticed there's less shrinkage and cracking in the hardened concrete made with POZZOLITH.

"It's for these reasons that we recommend our POZZOLITH ready-mixed concrete to customers and to the architects and engineers who design the fine, new work in the Denver area."

Over 1500 *quality conscious* producers of Ready-Mixed concrete and concrete products are using POZZOLITH for similar reasons. They've found there's no equal to POZZOLITH . . . and to Master Builders field service. You and your customers can profit immediately. Call in the local field man now.

The Master Builders Company, Cleveland 3, Ohio
Division of America-Marietta Company
The Master Builders Company, Ltd., Toronto 15, Ont.
International Department, New York 17, N.Y.
Branch Offices in all principal cities.

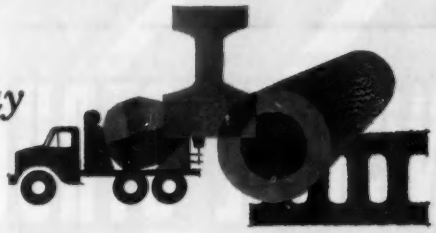
BUDD SPRATLEN, Vice President and General Manager, and Bob McCabe, Control Engineer, both of Ready-Mixed Concrete Co. of Denver . . . and Bob Florey, Master Builders field man, analyze test data.

READY-MIXED CONCRETE COMPANY OF DENVER produces high quality specification concrete for important jobs like this King Supermarket project. General Contractor, Perlmutter Construction Company • Architect, Ralph Peterson & Associates, both of Denver.

MASTER BUILDERS® POZZOLITH*

*POZZOLITH is a registered trademark of The Master Builders Co. for its concrete admixture that helps produce better quality ready-mix concrete more economically.

Here's the practical, proven way to Pre-mix!



THE SMITH TURBINE-TYPE MIXER

If you've wanted to pre-mix, but winced at the cost of converting — here's the answer to your problem!

The Smith Turbine Mixer — proved successful in over 100 installations — is a compact, lightweight, vibrationless mixer that can be easily installed in your batching operation.

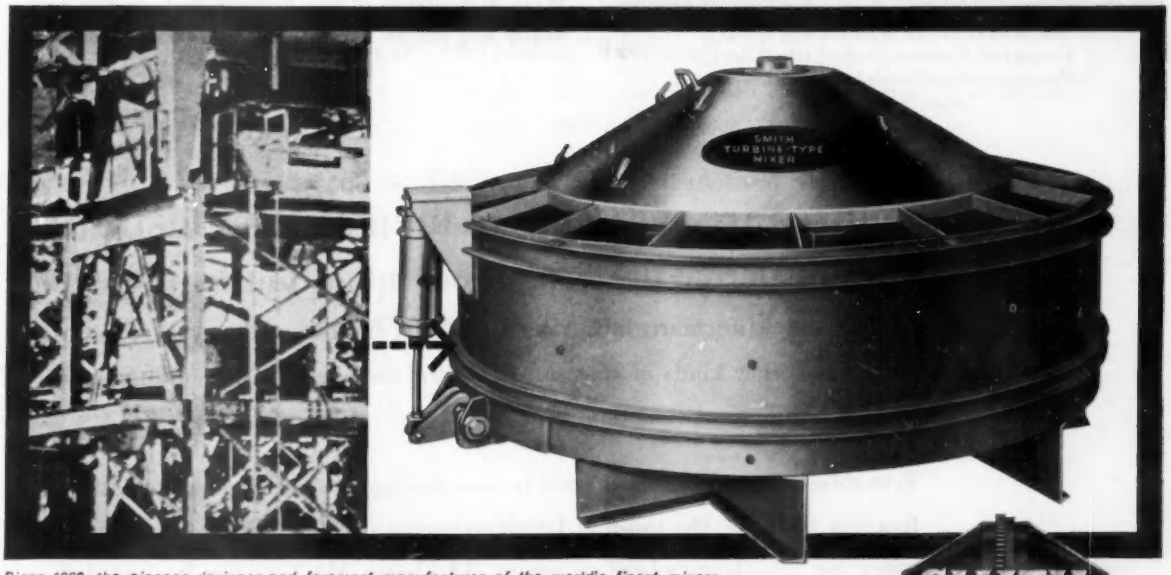
If you're building a new pre-mix plant, use of the Smith Turbine permits lighter, lower, less expensive structures.

If you're converting an old plant to pre-mix, the Turbine can frequently be installed without extensive, major modifications — in places where no other mixer will fit!

Cycle time with The Smith Turbine is fast enough to charge up to 20 trucks an hour. What's more, the Turbine can discharge in four different directions, allowing you to alternate wet and dry mixes — handle ready-mix, block, pipe, or pre-stressed batches all in the same machine.

Investigate the Smith Turbine. Write or call — we'll gladly tell you in detail how others are finding it the ideal way to beat competition while supplying higher-quality pre-mix!

Making dollars and sense in over 100 successful installations!



Since 1900. the pioneer designer and foremost manufacturer of the world's finest mixers

THE T. L. SMITH COMPANY

Milwaukee 1, Wisconsin • Lufkin, Texas

Affiliated with Essick Manufacturing Company, Los Angeles, Calif.

For more information use postcard facing page 48.

CONCRETE STRUCTURAL MEMBERS

MACHINE-MADE BY DUNBEAM

Dunbeam Slabs used in construction of roof of George Leib Elementary School, Oak Lawn, Ill. Manufactured and installed by H. B. Olney, Inc. East Chicago, Ind.

The three compacting principles of vibration, tamping and troweling are used in combination to produce units of extreme density and sinewy toughness. Units can be made up to 24" in width, with narrower units made in multiples of two, three or four. And in practically any length because production is continuous.

Fifty franchises are available to men of responsibility

who are alert to the tremendous opportunities presented by the machine-manufacturing of joists, beams, slabs, lintels, coping and many other kinds of concrete structural members for use in almost every type of building construction.

Franchises are necessarily limited to men having the background, facilities and finances to make the most of latent opportunity, and ability to appoint and supervise sub-plants where necessary. Dunbeam Machine can be installed on attractive lease arrangement. Write for literature and details of franchise.

W. E. DUNN MFG. CO., 502 W. 24TH STREET, HOLLAND, MICHIGAN

JULY 1959

CONCRETE

For producers of concrete block, precast and prestressed concrete products and ready mixed concrete

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FEATURES FOR THIS MONTH

Goal: 10% of the Toronto Market 16

In a 36 plant area, that's the aim of the new, highly mechanized Namco operation. New sales ideas will sell 26 million units.

Rush, Exacting Casting for Disneyland Job 22

For addition to Walt Disney's famous park, intricate precasting on close schedule was done for new monorail system.

Three Types of Driver Accidents 21

One ready mix plant did study of types of accidents, frequency, and rate of seriousness.

Layrite Cuts Drying Time 67% 26

Switch in drying methods drastically reduces drying time, improves saleability of their block.

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Ryerson imports widely used European method employing conduit, cable and grout operation.

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VAC
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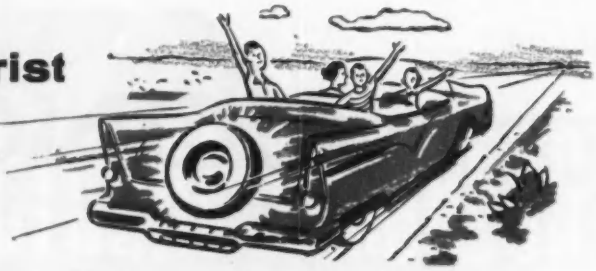
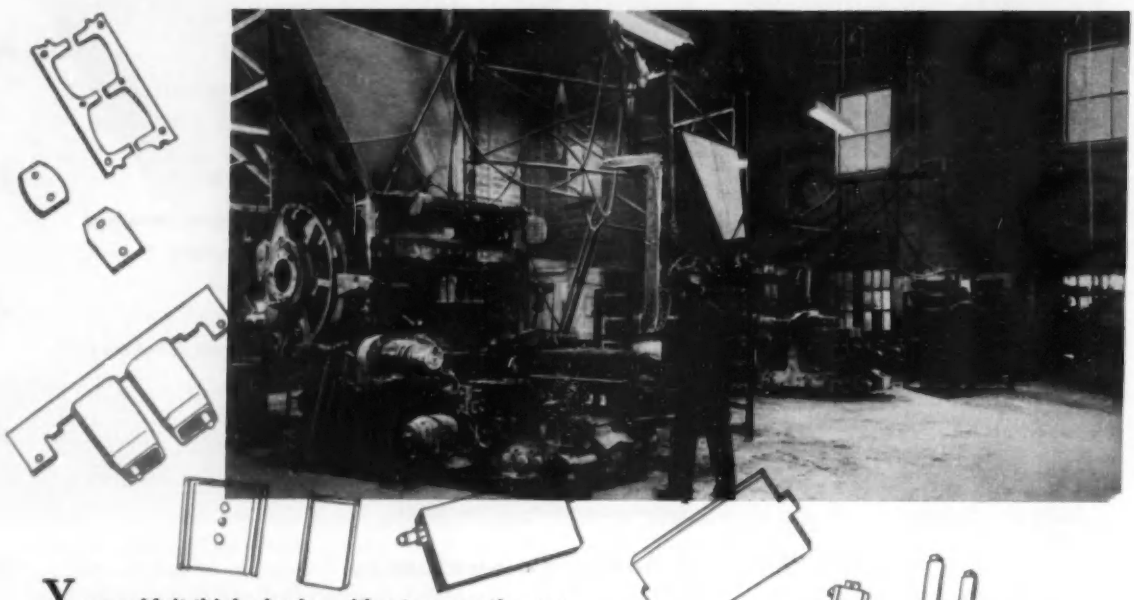
The Wise Motorist Always Carries a Spare!



and the Wise Blockmaker Always Carries Spare Parts!



You wouldn't think of going without a spare tire on a pleasure trip! Then it's all the more important to carry spare parts for your Vibrapac machine. For if your Vibrapac suddenly comes to a standstill — your income stops — your customers become disgruntled because you are unable to make block deliveries — your employees are compelled to stand by without work (but still on the payroll) — and your blood pressure hits the ceiling. So play safe. Always carry an adequate supply of Genuine Besser Parts for your Vibrapac machine. Your Besser representative will gladly assist you in making the selection. Phone him — today.

BESSER Company

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First in Concrete Block Machines

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Van Nuys, California
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STate 5-5457

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Newark, New Jersey
Phone:
Mitchell 2-1434

ALPENA
Besser Factory Store
Alpena, Michigan
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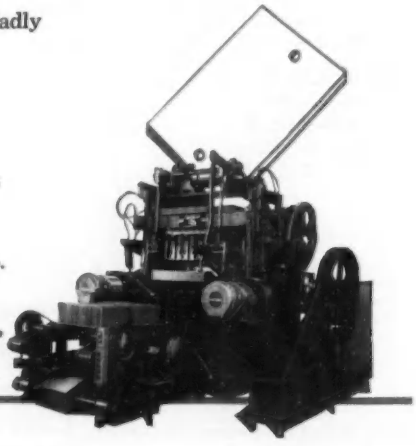
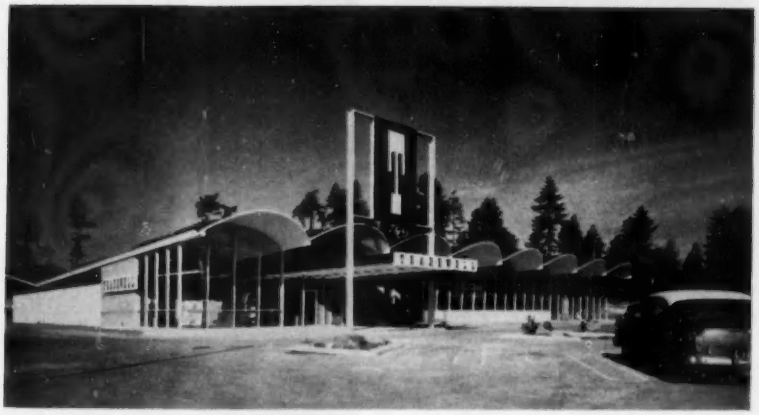
BESSER Genuine PARTS



For more information use postcard facing page 48.

News

Concrete Roofed Supermarket Wins AIA Award



A prototype supermarket in Burien, Wash., for the Tradewell chain recently won a 1959 Award of Merit from AIA. The chain evidently will eventually build 30 more market buildings. The store shown features a thin shell concrete vaulted roof with 12' overhang to provide a covered walkway and loading area. Concrete block was used in the walls of the 23,700 sq. ft. structure.

Space Applications Mailed for NRMCA Biennial Show

Registration forms for floor space at the combined biennial show of NRMCA-NSGA have been mailed, along with a floor plan.

The show, in Chicago on Feb. 15-18, will take place in both the Coliseum and the Conrad Hilton Hotel. Applications for space note that larger equipment to be shown must be exhibited at the Coliseum only. Also, space at only one of the locations is available; exhibitors cannot use space at both locations.

There'll be no convention sessions on Feb. 15-16, a Monday and Tuesday, so that producers can visit the shows without missing any business sessions.

NRMCA Board To Meet At Lake Placid, Sept. 28-30

The semi-annual meeting of the board of directors of NRMCA will be at the Lake Placid Club, Essex County, N.Y., on Sept. 28-30.

Plasticrete Reduces Prices On Concrete Masonry Units

Connecticut's industrial and residential builders, accustomed to steadily climbing costs of construction materials, saw a significant turn in the general price reduction just announced by Plasticrete Corporation, largest producer of masonry products in this state.

The announcement of price cuts ranging from 5% to 10% on sand and cinder concrete masonry block was issued from Plasticrete's headquarters at 1883 Dixwell Avenue, Hamden, by Philip Paolella, executive vice president of the firm.

The lower price schedule goes into effect immediately and applies to all of the Plasticrete plants in Hamden, North Haven, Waterbury, Hartford and Willimantic.

In a statement that accompanied the new price list, Paolella pointed to the important effect the reductions will have on local construction costs, since the decreases apply to the basic types of concrete block used in virtually all industrial and residential construction. The savings can be measured, Paolella said, in terms of Plasticrete's weekly output of enough masonry units to build several hundred thousand square feet of wall area.

Explaining the general price reduction, Paolella emphasized that it was accomplished in the face of a continuing rise in costs of raw materials, hourly wage-rates and freight. He credited the reductions to cumulative improvements in production and handling equipment and methods.

Rapidly growing volume of concrete masonry sales has induced the application of the most modern mass production processes in all Plasticrete plants, said Paolella, and the resulting economies have now been translated into lower prices to builders.

NCSA Joins CAP-AGC Cooperative Committee

The concrete and aggregates producers side of the CAP-AGC Joint Cooperative Committee now has three members with the signing up of the National Crushed Stone Association.

The other two members are National Sand & Gravel Assoc., and NRMCA.

With the first meeting held last January, problems being studied include quality standards for concrete and aggregates, labor problems, local codes, highway construction and others.

ESCSI Publishes Sound Transmission Paper

Studies of sound transmission loss through concrete masonry walls have been published in a new information sheet available from the Expanded Shale, Clay & Slate Inst., National Press Building, Washington, 4, D.C.

The paper is available to members and non-members, either through Washington headquarters or from the members.

News

New Group, Publication Promotes Modular Units

A newly formed group, Modular Building Standards Assoc., will provide service to architects, contractors and homebuilders by means of MBSA Reports.

This new publication will be distributed to MBSA members and is a compilation of current technical articles on modular progress; news and status of ASA's Committee A62 on dimensional standards for building products; and technical brochures on new products introduced by MBSA members.

The MBSA address is 2029 K St., NW, Washington, D. C.

NCMA Publishes Book Aimed At Lenders

"The Wonderful New World of Block" is the title of a new book published by NCMA, with the book ready for distribution by members to people who advance mortgage money.

The booklet tells how block improves and enhances resale value, about block's versatility for both low cost and high cost housing.

Although intended for banks and lending agencies, the NCMA also suggests distribution to realtors, contractors and architects and also city, county and state zoning boards and committees.

Besser Regional Seminar Planned August 3-5

These men completed the last seminar, held in May. In back, left to right, are Bob Lyles Jr., of Supreme Concrete Block & Prod., Inc.; Ralph Slaughter, also of Supreme; Lincoln Frazier, Campbell Supply Co.; Carl Van Loos, Vans Concrete Products Co.; J. Darwin Ross, Marietta Concrete Corp.; Edward J. Anderer, Stonecrete Corp.; Dee Webster, Bristol Concrete Products Corp.; and Warren Abrahamson, Abrahamson-Nerheimer Co.

In Front: J. Wes Craighead, Besser Co.; Harry Longenecker, Building Unit, Inc.; Fred Gorr, Gorr Block & Supply, Inc.; William Underwood, Alpena Community College; Julius Kuchnicki, Alpena Cement Products Co.; George Fischer, Cottman Builder's Supply Co.; and Ralph Cromis, seminar president, Boice Builders Supply.

Not shown is C. E. Willbee, Willbee Concrete Products Co.

A seminar for block plant owners and top management personnel will be held August 3-5 by Besser School, a division of Besser Co., Alpena, Mich.

The seminar will include such subjects as cost accounting, profit planning, sales aids and expansion of sales potential.

Since the seminars are conducted on a regional basis, this August meeting is for owners and managers from Illinois, Indiana, Ohio, Kentucky, Tennessee, Mississippi, Alabama, Georgia, South Carolina and Florida.

A new session, in October, will be held for plant men from Canadian provinces, Maine, New Hampshire, Vermont, New York, Massachusetts, Connecticut and Rhode Island.

Texas CMA Meets Oct. 4-6

The Texas Concrete Masonry Association will hold its Fall semi-annual meeting October 4-6 at the Western Hills Inn, in Eulass, Tex. Eulass is between Dallas and Fort Worth.

Ray Deemer Elected Ohio CBA President

Ray H. Deemer has been elected president of the Ohio Concrete Block Assoc., Inc., following the resignation of Harold Snider.

Deemer is manager of the block division of Dayton Builders Supply Co. Snider has disposed of his interests in Greenville Concrete Products, Inc., and Miami Valley Concrete Products, but plans to stay in the block business. He's presently serving as OCBA public relations representative to get new members.

On June 17, the group held a dinner meeting at Akron to discuss clay block.

Maryland Research Studies Steel Reinforced Roads

A basic and applied research project to study steel reinforced concrete roads is being undertaken by the Maryland State Roads Commission and the University of Maryland, in cooperation with the Federal Bureau of Public Roads.

The study will seek to establish a criterion for road design, thickness of pavement and the amount of steel reinforcement needed to eliminate expansion and contraction joints.

Nine different experimental sections of road will be built for the study. The elimination of joints is expected to offer cost savings and to give smoother riding pavements.

Neville Promotes MacCallum, Smith

The promotion of two sales executives of Neville Concrete Pipe Co., a subsidiary of Pittsburgh Coke & Chemical Co., has been announced by W. Guy Ramsey, Neville president.

Thomas MacCallum has been appointed sales manager — structural units, and Raymond W. Smith was named sales manager—concrete pipe and concrete block. Both were formerly assistant sales managers.

Smith, a native Pittsburgher, joined Neville in 1947 as a sales representative.

MacCallum, a native of Glasgow, Scotland, was at one time sales manager of Marks & Boyce, Ltd., London, England, and the Pre-Cast Concrete Division of Schell Industries, Ltd., in Woodstock, Ontario, Canada. Prior to joining Pittsburgh Coke's subsidiary he was chief sales engineer of The Pittsburgh Flexicore Co.

Friedman

Friedman Named Ass't. To Maule President

Emanuel Friedman has joined Maule Industries, Inc., as assistant to F. K. Foster, company president. Friedman will serve as management coordinator in production, sales and transportation.

He had been with Wesco Corp., prior to joining Maule.

New Colorado Group Elects Utiger Pres.

The newly organized Colorado Concrete Masonry Association has announced the election of R. A. Utiger, of Cinder Concrete Products Co. of Denver, as president. Owen McKinney of McKinney Concrete Products, in Pueblo, was chosen vice-president, and Harold Lobb of the Ace Block Company of Denver, as secretary.

Membership of the new association is made up entirely of concrete block manufacturers throughout Colorado.

Utiger said the organization will incorporate and will meet quarterly at various points throughout Colorado. Currently the group is laying plans for an educational and promotional campaign on behalf of concrete masonry.

Other charter members of the association include William Kemp of Acme Block Co. of Denver; M. T. Carney of Colorado Duntile Products Co., Denver; Frank W. Hoffman, of Hoffman Building Products Co., Sterling; D. G. Owens of Brush Block Co., Brush; Roger Samuelson, Boulder Block, Inc., Boulder; Don Wheelock, of Vibrated Concrete Co., Denver; Douglas Stewart, of Valley Building Supply Co., Grand Junction; L. E. DeRosiers, Valley Concrete Co., Lamar; and Gail Butler, of S & C Enterprises, Colorado Springs.

Texas CMA Elects Dodds, Moore At Meeting

TCMA board, from left, are William Smith, director; Floyd Carmichall, Sr., director; Thurman Barrett, secretary-treasurer; Bert Moore, president; J. R. Harper, vice president; Erv Hahn, director; Alvin Woody, director.

The Texas Concrete Masonry Assoc. held its semi-annual meeting in Austin on April 12-14, with 92 producers, associate members and guests attending.

Officers elected at the meeting were Harold M. Dodds, Jr., of Texarkana Concrete Products Co., chairman of the board; Bert Moore, of Moore Building Products, president; J. R. Harper, Featherlite Corp., vice president; and Thurman Barrett, Barrett Industries, as secretary-treasurer.

Alvin Woody, of Texas Concrete Block Co., and Ervin Hahn, Atlas Building Products, were elected directors for three years.

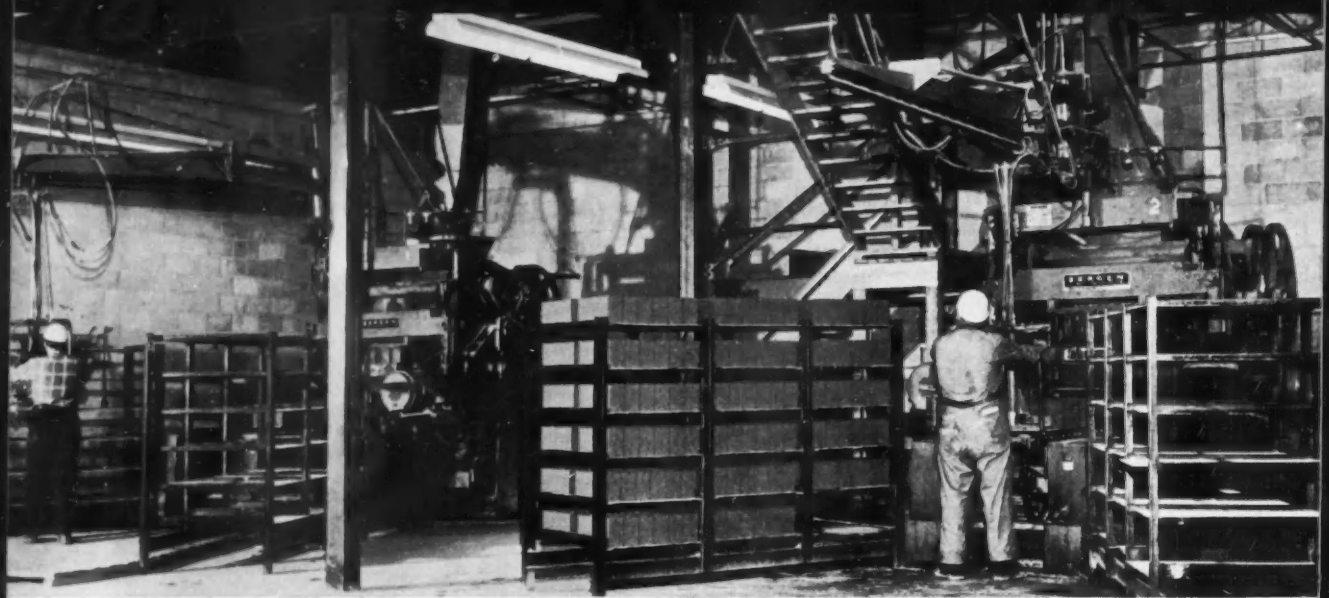
N. Robert Batten is executive secretary of TCMA.

CANADA'S *NEWEST* BLOCK PLANT

The new Namco plant, located 15 miles from downtown Toronto, covers 32,000 sq. ft. on 25 acres.

is equipped with

BERGEN TRI-MATICS



Interior View of Plant, showing the two TRI-MATICS.

National Masonry Company, Ltd. (Namco) put top quality above all other considerations in designing their new, modern block plant. This decision was influenced by the growing need and demand for top quality Concrete Building Units in the Toronto area.

Namco expects within a few months to attain a rate of 10,000,000 brick and 16,000,000 block annually. Namco's manager, Mr. Gilbert Winter, assured the quality of this output by installing only the best in production machinery. Before ordering, he toured Europe and the United States, studying all types of block making machines.

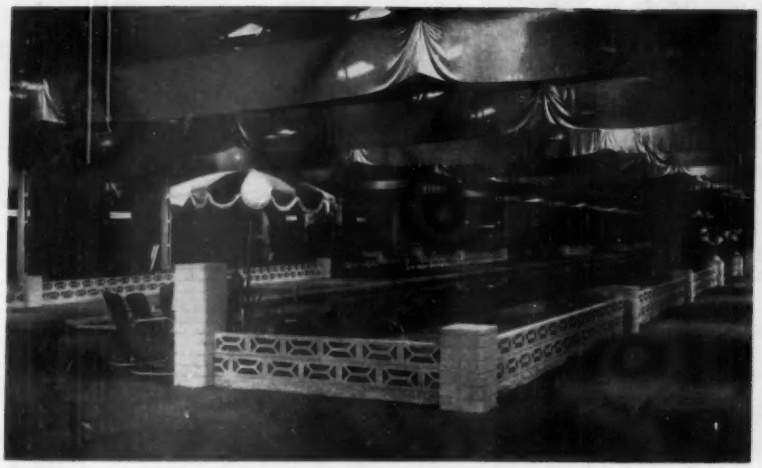
It is significant, therefore, that he selected two Bergen TRI-MATIC Block Machines to pace Namco's production. The heavy duty, high-production BERGEN TRI-MATICS operate 24 hours per day. Namco's top men believe that it is these TRI-MATICS making their clean, uniform blocks from first class aggregates that give them the edge in the market.

Whether you operate a one machine or a multi-machine plant, Bergen can advise you regarding the best set-up to produce top quality block—at a profit. Whatever your needs, write or 'phone Bergen "collect".

BERGEN MACHINE and TOOL CO., Inc.
NUTLEY, NEW JERSEY

Telephone:
Nutley (N.J.) 2-7300
Cable:
"BERGENCO" (Nutley, N.J.)

Bergen manufactures a complete line of Block Plant Equipment—Batch Mixers, Skip Hoists, Off-bearing Hoists, Height and Density Control Panels, Mold Repair Tables, and a full line of mold attachments and replacement parts.



Block Fence Steals Show At Exposition

An ornamental block fence more than 600 feet long displayed by Carolina Concrete Block Works, Inc. of Rocky Mount, N. C. was a spectacular feature of the fifth annual Better Living Exposition held there May 13-16. More than 20,000 people from all over eastern Carolina attended the Exposition and many favorable comments were made on the fence display.

The block fence encircled a huge man-made lagoon, central decorative feature of the Exposition. Within the fence were colorful patio scenes displayed by local business firms.

Various entertainment events were presented in the lagoon area each night.

Earl Pittman, president of Carolina Concrete Block Works, Inc., received a letter from Allen Mims, Mayor of Rocky Mount, commending him on his part in the Exposition. Mims said, "I want to take this opportunity to thank you for your contribution to the success of the fifth annual Better Living Exposition. The ornamental block fence erected and displayed by your company added much to the distinctive effect of the show."

After the show, the fence was to be sold as is to the highest bidder.

Pittman said that the blocks used in this fence were made on a Columbia block machine. They are made in both light and heavy weight aggregate. He also stated that his company has had very good success with this particular block over a 100 mile radius of Rocky Mount.

The Carolina Concrete Block Works, Inc., was founded in 1944 with Pittman and Ralph Williams as co-owners. Pittman is president and Williams serves as vice-president. In its beginning the company made 300 blocks a day on a hand machine. Now 5,000 blocks a day are produced with a total employment of about 20 people.

Management, Relations Terms Defined in Glossary

Some 300 critical terms in the fields of personnel management and industrial relations are defined in a book named "Glossary of Personnel Management and Industrial Relations Terms."

The book is intended to reduce misunderstandings, litigations and to improve communications, according to the publishers, Research Div., Society for Advancement of Management, 74 Fifth Ave., New York City 11. Price of the book is $2.

ASTM Pacific Area Meeting October 11-16

A program of 53 technical sessions, five industry luncheons, an instrument and apparatus exhibit, plant and laboratory visits are planned for the third Pacific area national meeting of ASTM, in San Francisco on October 11-16.

One of the luncheons will be for the cement and concrete industry.

ASTM has also announced publication of its 1958 *ASTM Proceedings*, volume 58, with 1430 pages.

Calendar . . .

AUGUST 10-12, 1959	National Cinder Concrete Products Association — Conference of Lightweight Concrete Block Manufacturers — Chalfonte-Haddon Hall Hotel, Atlantic City, New Jersey.
OCTOBER 4-6 1959	Texas Concrete Masonry Assoc.—Fall semi-annual meeting—Western Hills Inn, Euless, Tex.
NOVEMBER 1-7, 1959	Prestressed Concrete Institute — 5th Annual Convention — Deauville Hotel, Miami Beach, Fla.
DECEMBER 6-7, 1959	South Carolina Concrete Masonry Association — Annual Convention — Columbia Hotel, Columbia, S. C.
FEBRUARY 15-18, 1960	National Sand & Gravel Assoc. and National Ready Mixed Concrete Assoc. — Combined Biennial Show — The Coliseum and Conrad Hilton Hotel — Chicago, Ill.
FEBRUARY 22-24 1960	National Concrete Masonry Association — 40th Annual Meeting — Hotel Statler, Los Angeles, Calif.

"Get Ready to Grow" Says NAHB President

The leader of the private home building industry said recently the nation must get ready for a dynamic decade of growth and be prepared to make it a period of "orderly dynamism."

Carl T. Mitnick of Merchantville, N. J., president of the National Association of Home Builders, said the challenge will not be met by a "hit-or-miss approach by industry, or by failure of the Government to grasp the meaning of the times."

Mitnick said the 60's will witness the long-expected population growth, stemming largely from the high birth rate following World War II, and the family formation 20 years later.

"During the 60's," he said, "this nation's need will reach at least two million new housing units a year and the need will grow and grow."

He said statistics point to "one certain fact: an enormous number of people are going to have to be housed—and housed properly—in the years ahead. We have arrived, therefore, at the point—and none too soon—when we must plan."

"When I say 'we' must plan," he added, "I mean the builders, their associates, and the manufacturers of the products that go into their homes, I also mean the Federal Government—the Congress and the agencies of Government that deal with housing matters."

To begin with, he said, legislation is necessary to insure that shelter will not be periled "by the ebb and flow of mortgage money that has plagued the housing industry since the first deposit receipt was chiseled on the wall of a cave."

The NAHB, he pointed out, advocates a Central Mortgage Bank to insure a steady flow of money into the mortgage market.

Ready-mix pouring with DYNA-CHUTE is "fastest and best ever"—wins praise of paving contractor on Expressway job

DYNACHUTES ARE THE MOST!

Capco Delivery Technique Is Highly Praised by Norfolk, Virginia Paving Contractor

Drivers at Plant 2 can now join those at Plant 3 as having completely Sold the Customer on Capitol style of service

From THE CAPCO MIXER
Capitol Concrete Company
Jacksonville, Florida

Drivers of the Capitol Concrete Company, Jacksonville, Fla., and their technique with Monarch DYNA-CHUTE power hydraulic control in pouring ready-mix, won the commendation of a paving contractor during construction on the Southside portion of the Jacksonville Expressway.

The drivers' pouring of ready-mix with DYNA-CHUTE was the "fastest and best ever seen," the contractor told company officials. Further, he said, all paving jobs by his company in the future would require the use of DYNA-CHUTE.

With DYNA-CHUTE the discharge chute operates automatically. Just flick the control handle and the chute is raised, held or lowered . . . in seconds. Saves time, keeps deliveries on schedule. Send for free folder giving full details.

MONARCH ROAD MACHINERY COMPANY
1331 Michigan St., N.E. • Grand Rapids 3, Michigan

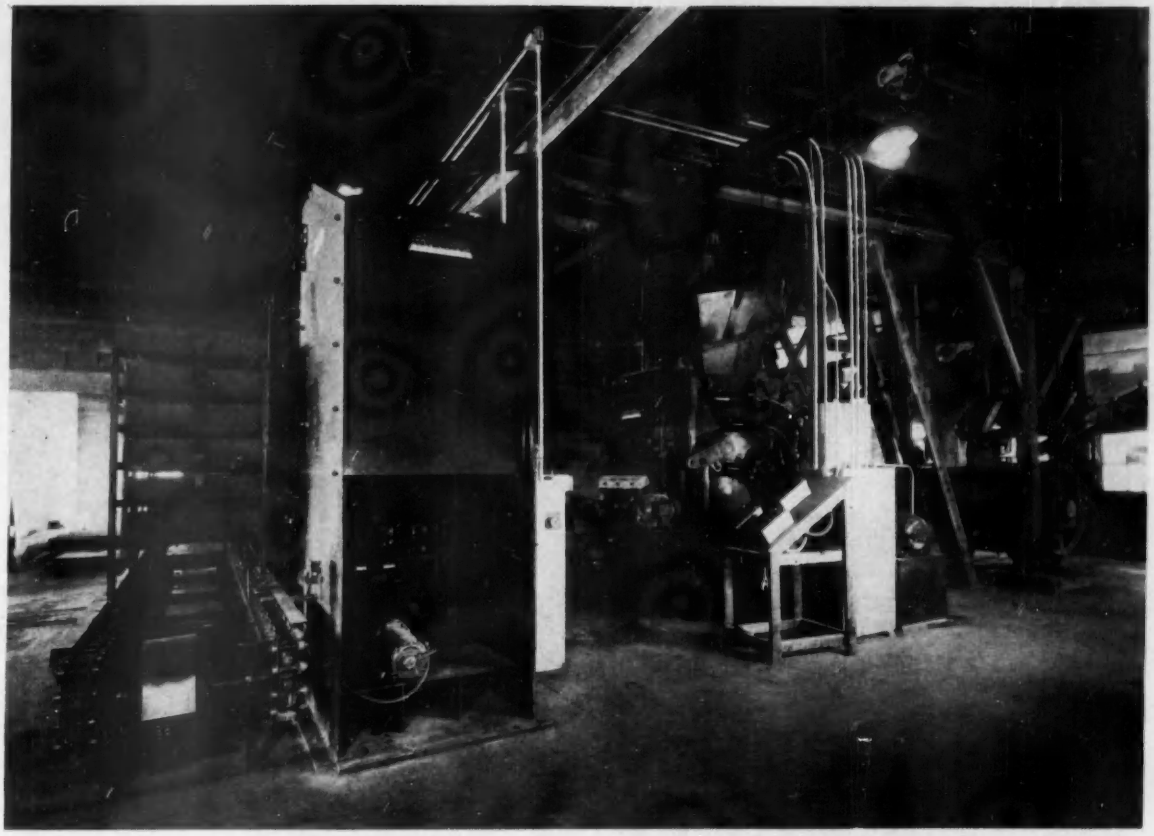
Goodrich Develops Rubber Expansion Joint for Roads

Rubber sandwiches between the concrete slabs are planned for an experimental stretch of the Baltimore-

Harrisburg Expressway, now under construction at Hereford, Md., some 25 miles north of Baltimore.

The first use of the new product, designed to eliminate rhythmic road shock, will have each set extending completely across each lane of the dual highway. The 13″ wide joints will be anchored in the concrete for a watertight seal.

The joints weigh 650 lbs., are 6-½′ long, and can absorb up to 3″ of push-pull motion while keeping the rubber flush with road surfaces.

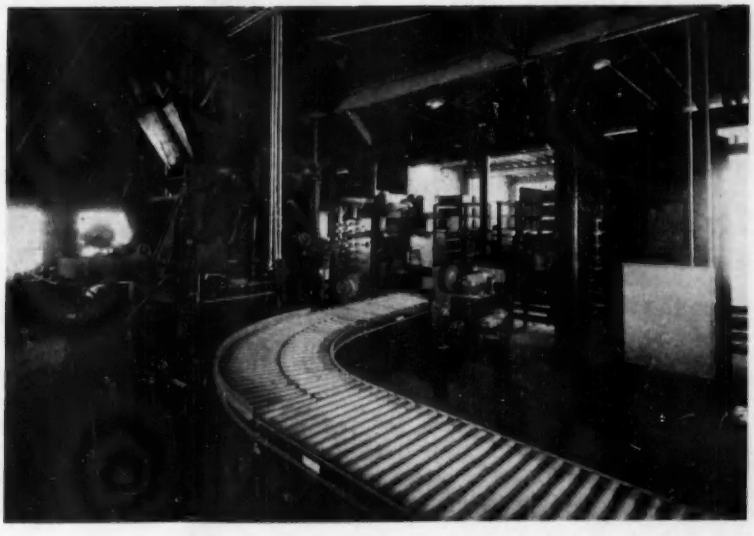


The GoCorp mixer, skip loader, "Super" Trustee and combination loader-unloader.

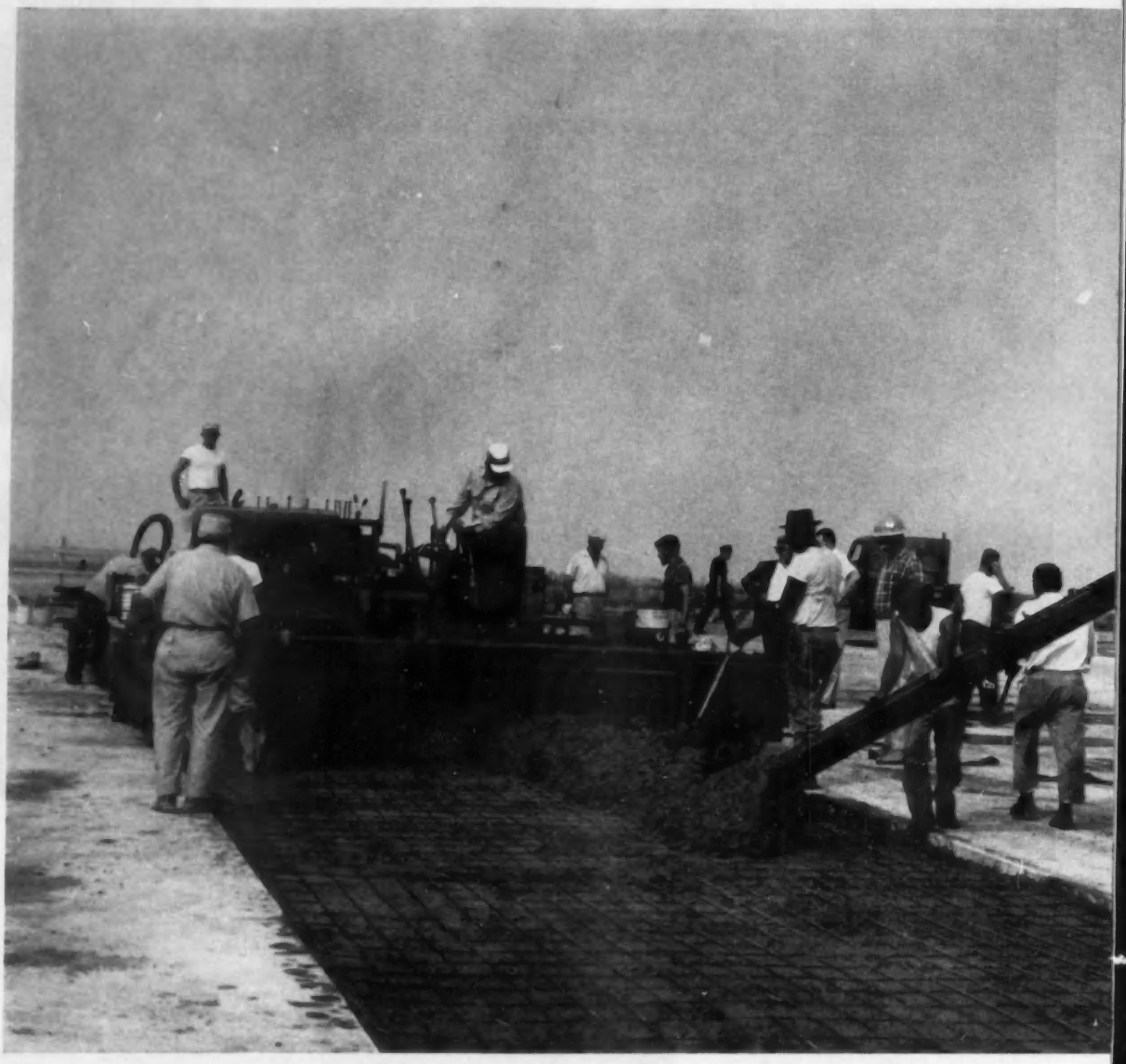
VanderWall Adds Automation

An open house, on June 13, showed the public, industry people and contractors the new automated equipment recently installed by Bill and Jerry VanderWall at their block plant just north of Grand Haven, Mich.

VanderWall Bros. installed a new GoCorp Trustee, an automatic block unloader and loader combination. We'll have more information at a later date on this new, clean and efficient operation, but thought you'd like to see these pictures of what one block plant has done.



Block roll on gravity conveyor to the cubing area.



Fast enough to give one

Discharging at the rate of 25 seconds per yd., big-bladed Model "F" mixers required only 5 minutes to pour 12 yd. batches of low slump paving concrete on this 93,000 sq. yd. job at New York International Airport.

When everyone tells you this new Model "F" Jaeger is the fastest truck mixer they've seen, you're getting only half the story. What counts is that this latest Jaeger is so much faster than your present mixers that you can average an additional payload trip per truck per day.

YOU CHARGE FASTER with Jaeger's enlarged rubber-neck hopper and big 21" deep blades revolving at Jaeger's charging speed of 16 rpm.

YOU MIX FASTER with Jaeger's unusually short, large diameter "Dual Mix" drum, deep continuous spiral blades and exclusive "Throw Back" remixing blades insuring a thorough, positive end-to-end mix.

YOU DISCHARGE FASTER with Jaeger's 21" discharge blades, enlarged chute head and multiple-speed transmission with Jaeger's instant operating, single-movement, synchromeshed reversing shift.

"I can split a wheelbarrow load with ease"

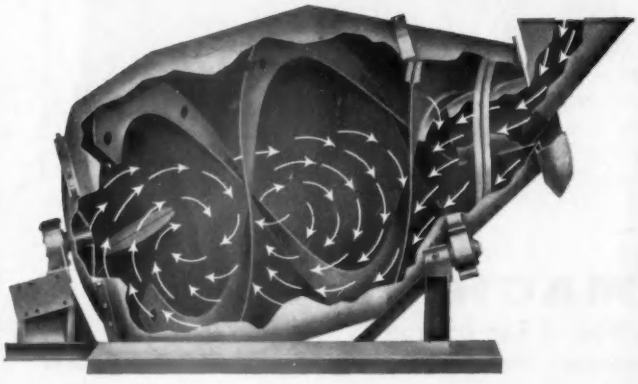
Controlled discharge of wet material can be as important as the ability to discharge low slump concrete fast, especially when you are delivering to carts or thin forms.

H. A. Satterlee, who drives this Model 5½ F mixer for Deal Lumber & Hardware Co., at Winfield, Kansas, says it this way: *"I like the controls. I can split a wheelbarrow load with ease."*

Contractor Leonard Richardson, one of Deal's good customers, says it this way: *"We often insist they send this truck mixer to our jobs. We like it because we can dump on scaffolds when running beam rows. Also mighty handy to run pilasters."*

Owner Deal, and Manager Kennedy, add this about their Model "F": *"We can load and unload it fast. We have older mixers but use this for maximum loads and "hot shot" orders."*

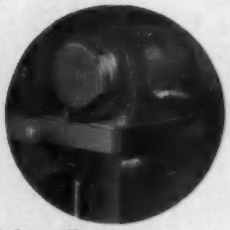
extra payload per day



IT'S FAST, FAST, FAST! One of the most profitable things you can do, right now, is to investigate this matter of truck mixer productivity. Your Jaeger distributor will be glad to demonstrate — or let us send you complete data with Catalog TMH8. The Jaeger Machine Company, 522 Dublin Ave., Columbus 16, Ohio. Jaeger Machine Co. of Canada, Ltd., St. Thomas, Ontario.

JAEGER

Adjustable guide bearing system.
Kent offers the desirable adjustable guide bearing system which affords a service life as long as the machine itself. This eliminates the need for periodic bushing replacement. Alignment of guides is maintained to assure block uniformity.



Two 10 h.p. vibrating motors with non-mechanical brakes
The replaceable liner mold boxes of the KENTHREE are vibrated by two 10 h.p. electric motors. One motor is positioned on each side of the machine for uniform vibratory action. Vibrating motor brakes are non-mechanical.

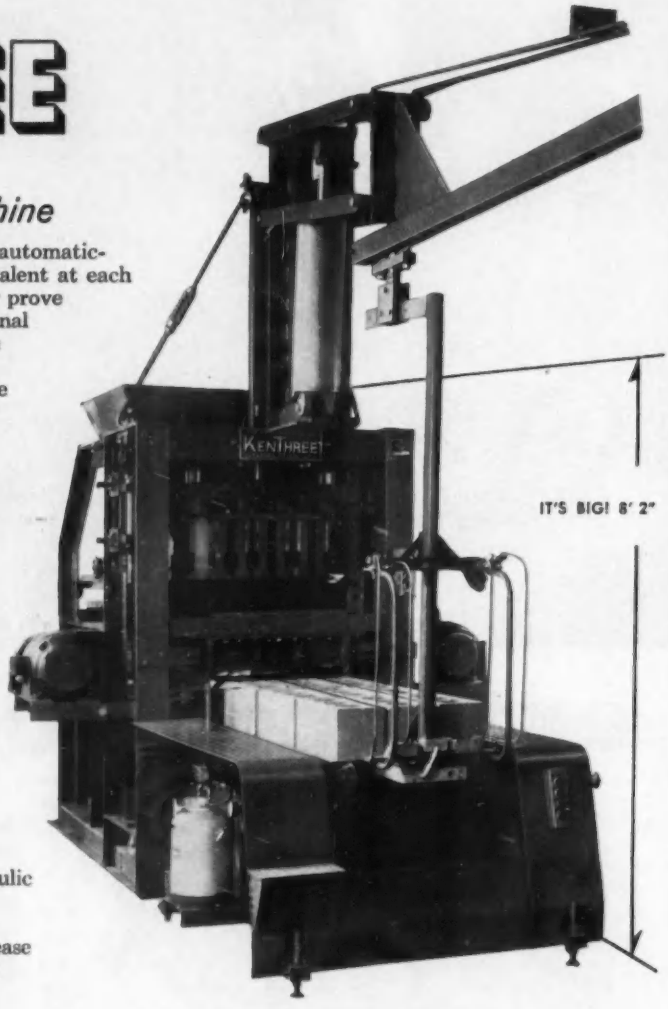
Closed gear head motor powers front pallet return
The front pallet return is powered by an enclosed gear head motor. This assures trouble-free operation, eliminates pallet jamming and assures positive feeding of pallets at all times.

These OUTSTANDING Operational and Maintenance Features Make the

KENTHREE

Your BEST BUY in a plain, Front Pallet-Return Block Machine

The compact, highly efficient KENTHREE automatically produces three 8-inch blocks or their equivalent at each cycle made from any aggregate. It will definitely prove wise to check every construction and operational feature of this remarkable KENTHREE before you purchase any block machine of this size or comparable production rate. This machine puts you ahead of your competition *at a price you can afford.* We believe you will find KENT your BEST BUY.



Electric-hydraulic operation

Much safer than cam and gear operation. No projecting parts or portions of parts to cause possible damage to operators.

The quantity of material, time of agitation and vibration; accuracy as to size of the blocks and the forward movement of the finished blocks are all electric-hydraulically controlled.

A magnetic spade permits the offbearer to pick up two pallets with three blocks on each and simultaneously drop two empty pallets, one of which immediately moves into position at each cycle.

Faster cycling boosts volume of block output

The ingenious incorporation of a special hydraulic accumulator is available in the hydraulic system. It markedly steps up the cycling rate of the KENTHREE with a resultant increase in block output. This is effectively accomplished without complicated construction.

Write TODAY for KENTHREE Literature

The KENT MACHINE CO.

CUYAHOGA FALLS, OHIO • *Division of The Lamson & Sessions Company*

Concrete Products Machinery Since 1925 **Canadian Distributor: Wettlaufer Equipment, Ltd., 49 Merton St., Toronto 12, Ontario**

Editorial

Florida Reports on Shadowal

The Florida Concrete and Products Association has recently released the results of a study on Shadowal and its contemporaries made among block sales managers and architects in the Sunshine state.

To quote the conclusion first, "Shadowal type of block is NOT doing very well in Florida — in some areas it isn't even being made. Although the block does have a potential, there are certain prejudices against it which have limited its use severely. The block industry, as individual companies, is guilty of selling practices and promoting deficiencies which have limited the sale of Shadowal block."

The block sales managers say that it is a hard product to promote, that architects do not take to it and smaller builders do not use it because they feel it increases the cost of the wall too much. Some of the sales managers said they had trouble getting their men to sell an item which was resisted since it was so easy to sell regular block.

Florida architects are reluctant to use Shadowal because they fear it is a fad. They feel that because this type of block is available to everyone to use as he pleases, there will be some monstrosities of design perpetrated and they don't want to be associated with a product which they feel has this potential. Many admitted that "they" were capable of doing some unusual things with Shadowal and some stated they would be happy to use it if they were given the exclusive right to design with it. Most of the architects felt that the block had a built-in time factor and in several years it would be as obsolete as slump brick. They don't want to be associated with obsolescence.

We have no idea if these views reflect the opinion of similar people in other parts of the country. Studies elsewhere would certainly be desirable and helpful. Frankly, we were much surprised at the Florida attitude. Normally, one expects the southeast and west coasts to be in the forefront of things that are new and different, particularly if these things express the exciting and daring.

Maybe the real answer lies in the fact that Florida people have so thoroughly learned how to combine the many inherent advantages of standard concrete masonry units with good design and construction practice that they regard the newer variations as an unnecessary and perhaps dangerous tinkering with a product of proved performance.

Namco's New Plant Designed To Win 10% Share of Market

Toronto operation also has new sales ideas, business organization to help achieve this goal

Hottest new competitor for the thirty-six concrete block makers listed in the Toronto telephone book: National Masonry Co. Ltd.

"We'll get 10% of the local block market," predicts a Namco man confidently. The reasons for his confidence: a modern, up-to-the-second brand new plant and a stinging, vital brand new sales policy.

There's $650,000 invested in the new Namco plant. Its vital statistics: 32,000 square feet on a 25-acre lot, fifteen miles and twenty-five minutes from downtown Toronto via high-speed expressways. By the end of the year, bricks and blocks will roll from this plant at the rate of ten million and sixteen million a year respectively.

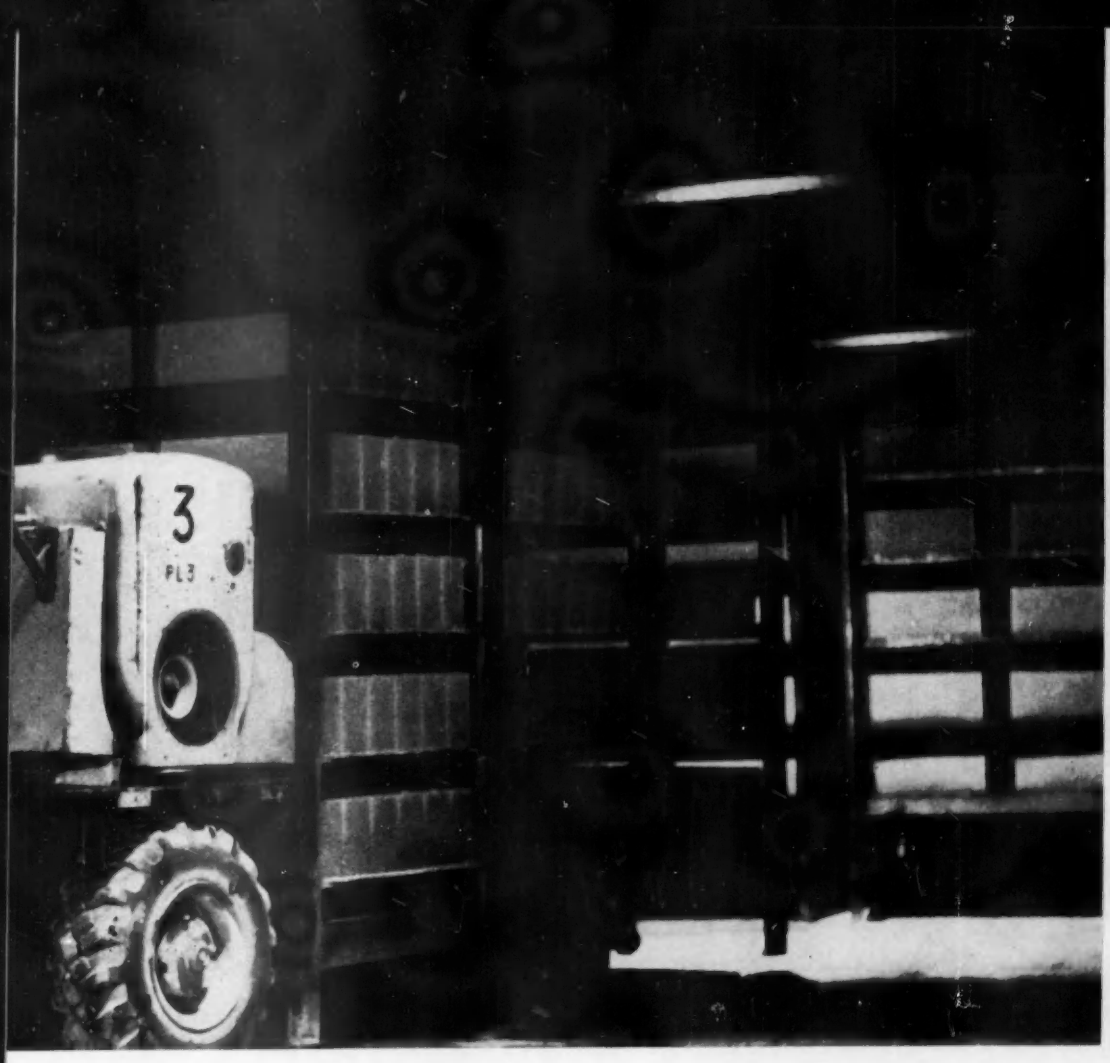
Charles N. Sarney has the job of selling this mammoth output. He's forceful, perhaps humourless, Canadian and promises to put as much pep and ingenuity into selling concrete products as Lever Bros. put into selling soap.

Sarney has what every good sales manager needs: a product he's proud of.

Quality is a strong point in Namco production and the reasons can be found in the company's history.

Company Began Experimentally

The National Masonry Company started in business five years ago, "on a more-or less experimental basis", making coloured concrete bricks. In their modest plant at Rexdale, a suburb of Toronto, they ran into all sorts of quality control problems.



Then Gil Winter moved in from Toronto Industrial Leaseholds as general manager. Under his guidance, both quality and sales soared. When Namco decided to enter the block business, they decided that here too they would push always for top quality.

The chase for quality starts a hundred miles from their new plant at a quarry in Durham where Namco believes they buy "The finest sand in the country".

The white sand has an extra importance in the sales picture because of the present push by Canadian cement manufacturers to promote all-concrete housing. The lighter the block, the more attractive the homes.

Namco entered the block business only after carefully checking the Toronto sales prospects. What they learned was encouraging. The demand then (a year ago) was so high that contractors were trucking blocks in from out of town.

Demand Growing

Every sign suggested that this demand would grow for years. The cement manufacturers' campaign on housing is paying off already. One of the fastest growing cities in the world, Toronto offers endless construction work, both on homes and industrial buildings. The opening of the St. Lawrence Seaway offers the area another tremendous boost. Huge apartment blocks, factories and warehouses are climbing into the skyline throughout the city.

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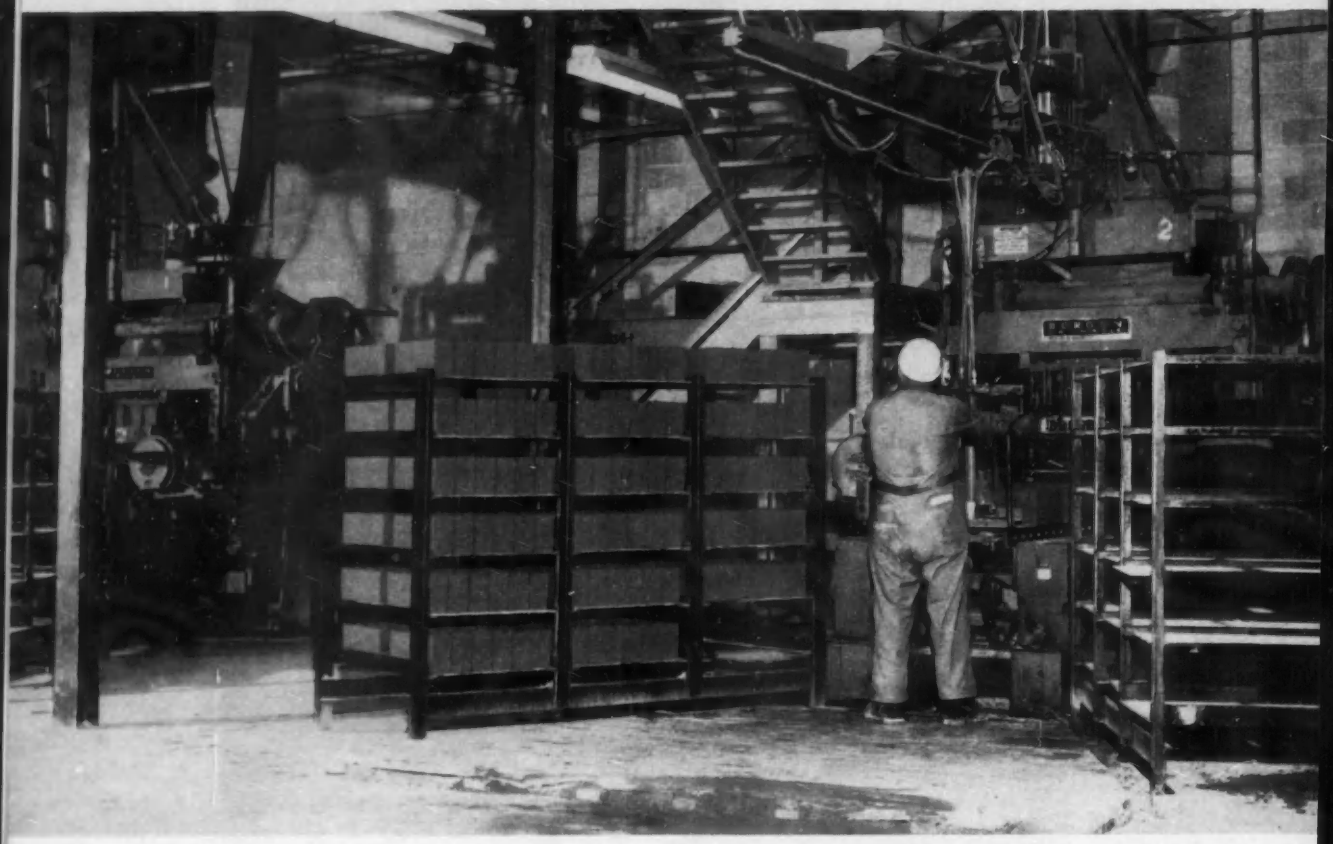


Two new Tri-Matics at plant will produce 26,000,000 units a year under full production.

Namco's New Plant . . .

Winter financed the building of his new plant through a standard "leaseback" arrangement with Toronto Industrial Leaseholds, a giant package building and financing company now controlled by William Zeckendorf. The Namco manager toured throughout Europe and the U. S. studying the latest block-making machinery then decided to buy Bergen Tri-Matics.

His new plant opened for business in January of this year.

Use Special Sand

It's designed for easy, efficient operation. As this story was written there were still a couple of conveyor systems to be installed and the final paving of the huge storage yard was waiting on the cold weather break-up. Under the final set-up, however, every Namco block will be delivered right to the hands of the blocklayer without being touched.

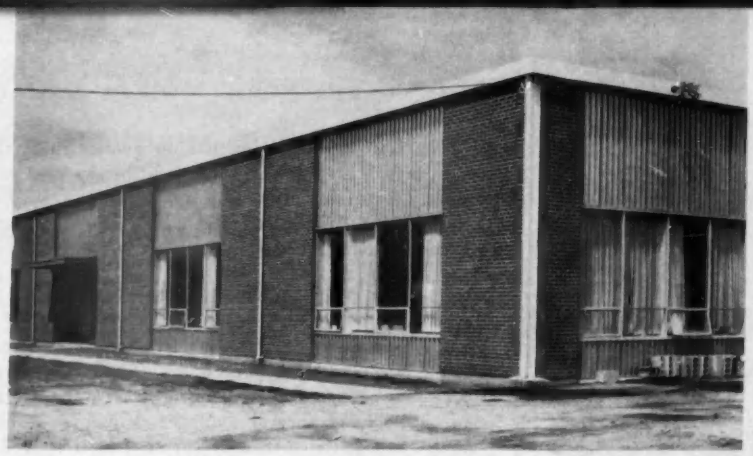
The special sand and other ingredients arrive by rail at Namco's siding where ten cars can be unloaded at a time. Cement arrives by special 25-ton tanker.

Over the siding, Namco has still to build its stacker tower, 65 feet high and 200 feet long, which will dump 12,000-ton stockpiles. Temporarily, a hired grab-crane handles the unloading.

Batching And Bins

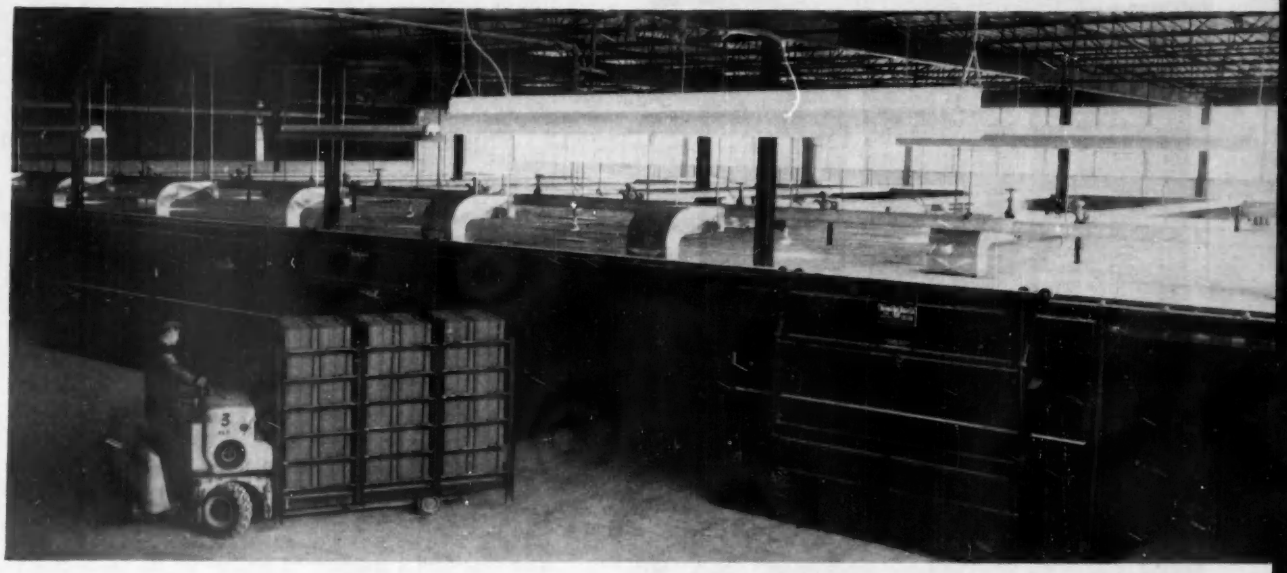
A three-quarter-ton front-end loader feeds the coarse and find sand and chips into a hopper from which a 185-ft. conveyor, with a capacity of 100 tons an hour, fills four large bins at the top of the building. From his seat, the driver of the loader can easily see which of the bins 200 feet away need replenishing; as they empty, a bin indicator cues lights on a control panel at the foot of the conveyor belt. The system was designed and built by Fanning-Schuett of Philadelphia.

Syntron vibratory feeders, regulated by Richardson Scale units and a time clock, discharge a predetermined load of ingredients onto a conveyor belt which feeds the three-bath Ciematic continuous mixer. The mixer switches off automatically when filled.



An exterior view shows care taken in appearance of office section.

Automatic controls were used on the kilns, as well as elsewhere in Namco plant.



The complete mixing and moisture control system is automatic and accurate to one-half of one percent. The speed of the block machines on the floor below regulates the appetite of the mixer which, in turn, controls the flow of ingredients from the bin.

All Done Automatically

Between the driver of the loader in the yard and the operators of the two big heavy duty, high-production Bergen Tri-Matics pumping out their finished "green" block, machines handle the whole job automatically. An operator merely checks or alters the control settings from time to time. "In the concrete block business, there's no other system like this in the world", claims J. Preece, the plant's superintendent, proudly.

For twenty-four hours in every three-shift day, each of the smoothly-operating Tri-Matics punches out a thousand 8-inch equivalents every hour. The two Bergen Tri-Matic high-production block machines are equipped with fully automatic Bergen height and density controls—to obtain the ultimate in quality control, and Bergen's high-speed, smooth-acting front pallet feeders and off-bearing equipment. Namco's top men believe that it is these Tri-Matics making their clean uniform blocks from first-class ingredients that give the company an edge on the market.

Truck Moves To Kilns

A platform truck quickly whips the completed blocks from the machines to the kilns, which are all built within the plant to speed the operation.

The 24-rack, fully automatic kilns have Moore doors and are regulated from a Minneapolis-Honeywell control panel. Heating is supplied by a Volcano Starfire boiler, incorporating a fully automatic water treatment system.

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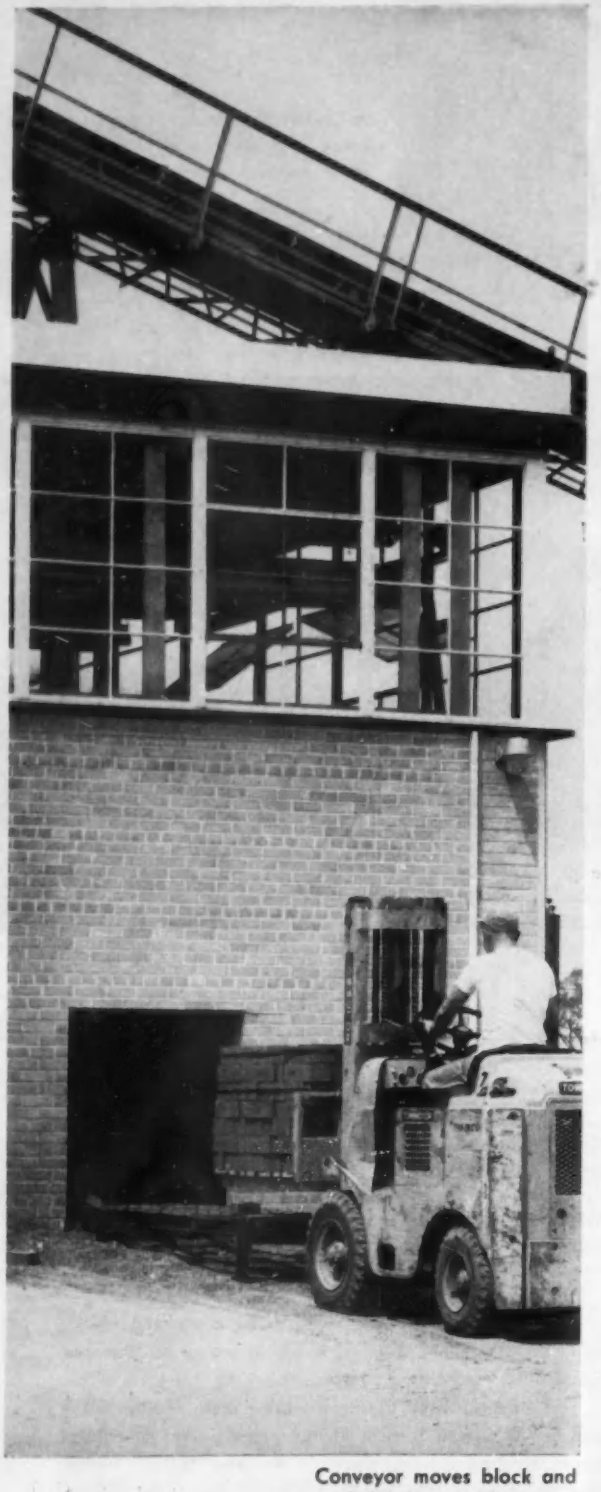
Namco's New Plant . . .



Conveyor moves block and brick from cubing area; lifts don't enter building.

The Namco people insisted on quality in their actual buildings. Only the best blocks and bricks went into their plant, every joint in the building is tooled, its appearance from the road is attractive and the offices and executive suite are colourful and light.

Modern Business Procedures

To make their $650,000 investment pay off, they instituted latest business procedures. Both their white-collar and blue-collar executives have clearly defined responsibilities. Under general manager Winter and sales manager Sarney, the hierarchy includes Mrs. Rita Woods as purchasing agent, John S. Preece, plant superintendent, Eddie Macdonald, production manager and Harold Parker, maintenance manager.

With an efficient plant and a good product, it's Sarney's job to sell ten million bricks and sixteen million blocks a year. With fifteen years' sales experience in the construction industry, he brought to his new job in January a bagful of live-wire techniques which will not only move the concrete products but also allow for the further planned diversification into heating and air conditioning installation and possibly the manufacture of prime windows.

New Sales Ideas

Sarney's five-man sales force each has a 1959 station wagon bearing a large metal model of Namco bricks and blocks. Into the back of each wagon is built a specially-mounted display of the company's products. The salesman can be sure of always showing prospective clients, clean, unchipped bricks and blocks.

When a big construction job starts—and Toronto has recently launched some mammoth projects—Sarney sends his team of salesmen and every truck he can spare. "Just drive around so people can see you," he instructs them, and adds with a chuckle: "Everyone on the job will have the impression that everyone else is buying from Namco."

Promotions

For the plant's official opening, he built a 100-ft continuous wall displaying every kind and colour Namco brick and block. "We'll do a lot of business that day," he confidently predicted before the guests arrived for the company clambake.

For the week-long National Home Show, he borrowed a $14,000, 400-oz. solid gold brick from Noranda Mines and displayed it under the careful eyes of Pinkerton guards with the slogan: "A Namco Brick is Worth its Weight in Gold". The company won a lot of new contracts at the show, including one worth $110,000!

As a final sales-and-service incentive, Namco offers to deliver every block in perfect condition to the block-layer's hands. A fleet of new International trucks delivers a loader and driver to every major project. The Namco man then stays on the job until it's finished, personally delivering the bricks and blocks where they are needed. The smaller projects, which don't justify the use of a loader, are serviced by the Namco boom trucks.

Here's a realistic study and statistical breakdown by one ready mix company on their experience with yard and on-the-road driving accidents.

Accidents — What They Are, How They Happen

by

Marvin Mell

Fairlawn Supply & Concrete Co.
Akron, Ohio.

This subject, accidents in the ready mixed concrete industry, could pertain to practically any type accident that we encounter, such as in the delivery of material, the processing of material either through a central mixer, or in dry batching operation, or accidents that happen after the driver leaves the plant for the job destination.

Since this course is aimed toward safety directors, driver trainers, and senior drivers, I am going to emphasize the type of accidents that occur after the truck leaves the plant, headed for the job or returning.

This does not in any way de-emphasize the need for safety in our plant operations, but I think that as we all look over our accident records we will find that it is in this part of our operation that the greatest progress must be made to enable us all to improve our safety records.

Three Categories

I have made a general survey of several concrete companies in our area and find that basically we can group the accident types into three categories: Yard accidents, On-the-Road accidents, and On-the-Job accidents. We have all encountered some "freak" mishaps that make for good conversation, but in order to get to the crux of the situation and enable us all to analyze our own problems, I am going to cite some figures that you will find interesting, pointing out where we stand as far as these types of accidents are concerned.

I will use some figures that I obtained from our operation covering approximately eight years. Because we did not have a safety program in effect until mid-1958, the accuracy of the figures could be questioned, but I would like to emphasize that since our safety program has gone into effect we have kept precise records of every accident in spite of its size or seriousness.

Yard Accidents

Yard accidents are the first category we should discuss. These usually consist of backing or turning into stationary objects, such as parked cars, buildings, etc. Don't shrug off the fact that concrete truck drivers back into buildings, because in many cases if you have many buildings on your property or have congested areas around your plants, this type of accident does occur.

Our experience on yard-type accidents has ranged from minor mishaps, backing into other trucks and objects, and even a serious accident when one of our trucks was hit broadside by our own locomotive crane.

We have had in this eight-year period 18 yard accidents, and this represents for that period 6% of our accident record.

On-The-Road

The next category is the on-the-road accident and can happen from the minute the truck leaves the yard until the time it returns. Material falling from the truck or thrown from the tires accounts for 53% of our traveling accidents. As you know, this causes frequent windshield damage and in many cases has necessitated minor body work on various vehicles.

We can account for a 1% accident rate caused by driver error—such as losing control of truck and hitting stationary objects or other vehicles.

We have had a 13% rate caused by backing into cars and other vehicles on the road. Although this seems difficult to explain, I note that other companies which I have surveyed have had many accidents of this type too. I believe this percentage is higher than it should be, and for this reason I want you to note at this time the term "backing."

Sixteen per cent of our on-the-road accidents were failures to stop in assured distances. This points out that there is a great tendency to misjudge the speed of the vehicle and failure of the driver to realize the great amount of braking power needed to stop a fully loaded concrete truck. We

Continued on page 40

Presented at the Public Relations and Safety Course for Drivers, sponsored by Ohio Ready Mixed Concrete Association, in Columbus, Ohio on January 19-21.

A close tolerance

using special forms

Disneyland

On Monday night, June 15, a special television program showed the new work done at famous Disneyland. A highly publicized part of this program concerned the new monorail train. Here's how this monorail system was built.

One of the most exacting large-scale concrete precasting operations has just been completed at the Carbon Dubbs Co. plant in Stanton, Calif.

The project was the manufacture of 240 precast concrete units, 120 beams and 120 columns for the new monorail system being installed at Disneyland. It entailed the casting of twisting, curving concrete beams 40 feet long with a maximum surface tolerance of one-eighth of an inch—and with end tolerances so close that when placed end to end atop the supporting columns, the beams form a continuous 3,830 foot long track with no more than ⅜ inch separation between any connecting sections. This small gap provides for expansion and contraction of the concrete.

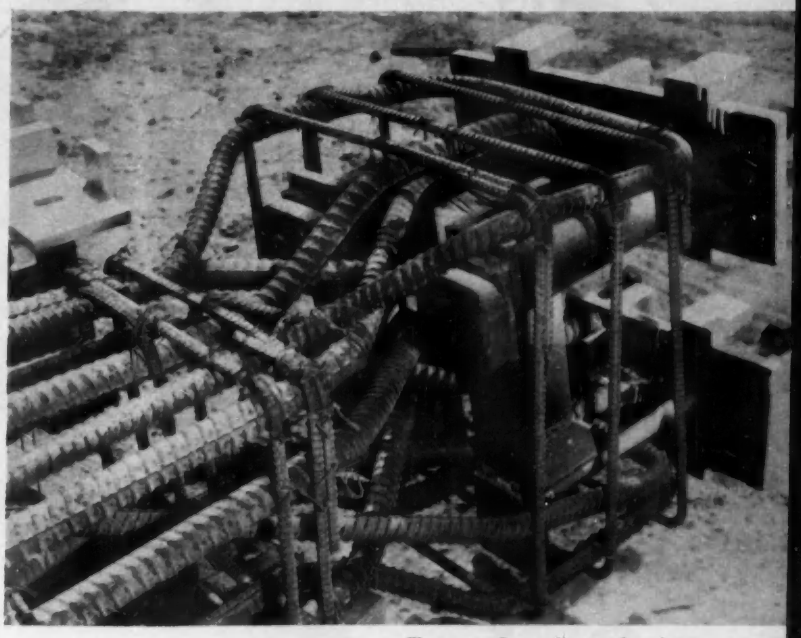
The monorail is part of the $5 million-plus development scheduled for opening at Disneyland on June 1st. The entire development, also including a submarine ride, 145-foot scale model of the Matterhorn, and redesigned autopias, combined make a

At left is the monorail before electrical work.

rush precasting job

all to build the —

Monorail



The top of a column, showing the intricate reinforcing.

major construction project. But the monorail involved intricate engineering design and casting problems of significance.

This 4/5 mile "concrete railway in the sky" consists of precast I-section girders which serve as track, carrying beam and guide rail, all supported by precast concrete columns resting on piles 25 feet deep. With the exception of a few piers cast in place into the roof deck of the submarine ride cavern structure, all columns and beams (including those for the 400 foot spur line) were precast at the Carduco yard in Stanton.

The Carbon Dubbs Company is best known for their Carduco structural wall units. Although they have manufactured many unusual and exacting architectural concrete products for architects and builders, this was their first precasting job of this magnitude.

A number of things make the casting operations on this project of considerable interest.

Rush Job

In the first place, the entire operation, highly precision work that it was, has been done on a rush basis to meet the Disneyland schedule. Carduco took the contract on the basis of a set of working drawings five months ago and plans were still coming off the boards continuously throughout the casting.

The Disneyland monorail, the first in this country, was designed and built according to the principles of the Alweg System in Cologne, Germany. However, the twisting banking course with grades up to 7 per cent required somewhat the different design criteria from that of the Alweg System and created many of the precision necessities in designing and forming the concrete units for the Disneyland system.

Each one of the 120 precast girders had to be calculated for camber or horizontal position, vertical position (elevation), super-elevation, and range or arc. The same held true for the precasting operation and the way in which this was accomplished by Carduco makes an interesting story.

Special Forms

The secret to this casting problem was the special forms, a masterpiece of forming, designed and built by Leonard Zerlaut, owner of Leonard's Precision Products Co. of Santa Anna.

Zerlaut designed a unique shell-like steel form that could be adjusted to produce curving, twisting concrete girders 35 to 40 feet long—virtually no two of which were identical. These forms, and good workmanship, produced girders with smooth-flowing lines and the extremely close tolerances required for the job.

This was possible because of the two-foot sections of the forms, each section adjustable to fit exacting blueprint requirements. A jack under each two-foot station was adjusted for the desired vertical curvature and/or camber. Adjusting screws, two on each side at each station, gave range and super-elevation. Three torsion bars on each side of the form, two at the top and one at the bottom, also insured the proper curve throughout the entire beam length.

The girder forms consisted of two parts, the main portion in which the beams were cast and a turnover structure used in rotating the principal part in and out of the casting pit, where the forms rested on casters.

In extracting the girder, the turnover structure was rotated to the bottom and the top portion swung out to deposit the girder in proper position for pickup and use. All of this was done mechanically, using a 25 ton Bay City crane operated by a three-man crew from Hill Crane Service.

To help insure the close tolerance necessary on the top of the beam

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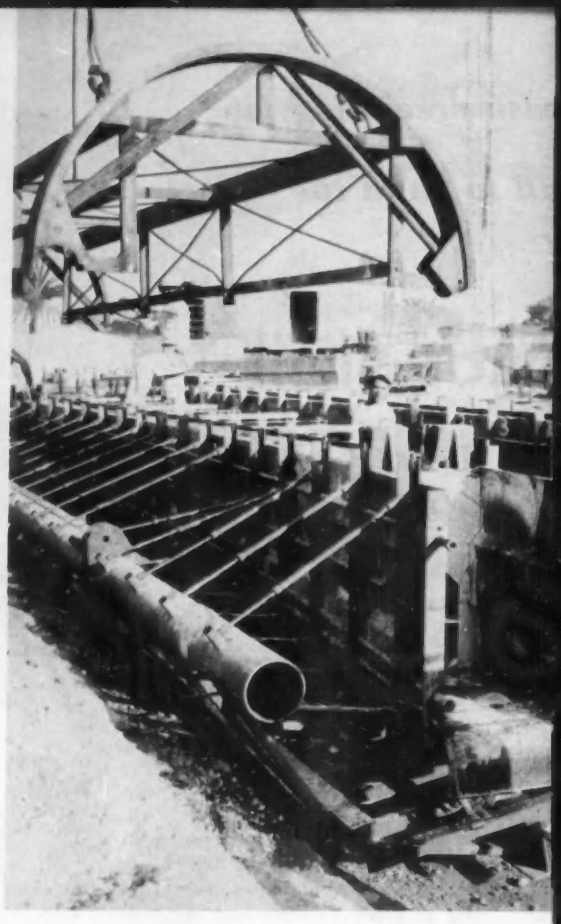

Monorail

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(upon which the drive and braking wheels of the monorail cars will ride), the top of the beam was cast bottom down against an oil-resistant, synthetic rubber lining. The one-eighth inch thick lining was good for 10 to 12 re-uses.

Instrument Designed

Zerlaut also perfected an instrument which set the girders in one operation to the proper camber, elevation, super-elevation, and radius, as specified by blueprint. The instrument was clamped onto each two-foot station the length of the beam and readings taken on vertical and horizontal gauges and bubble levelled.

The beams ranged from 24 feet to 40′ 6″ in length, with most 35 to 40 feet long. Five molds were built for the beams, two with a 35 foot maximum length and three 40 foot forms. One turnover structure serviced all five forms. The I-section beams measure 20″ wide by 34½″ deep.

Height of the precast piers or columns which will support the concrete beam track vary from just under six feet (5.93′) to 27′ 6″. Base for the columns varies from 4′ 8″ x 3′ 2″ x 1′ 3″ to 4′ 10″ x 8′ 2″ x 1′ 9″. A total of six column forms were also designed and built by Leonard's Precision Products Co.

Step by Step Production

Carduco turned out the first test sections of the precast units in late January. Operating the forms on a 48 hour cycle, they averaged 5 units (beams and columns) per day, six days a week, from mid-March until precasting work was finished in late April. Such a production schedule was possible only by the efficient operations and form schedules that Don Rez, superintendent at Carduco, and his men maintained throughout the job.

The production cycle for a beam began with previously fabricated and assembled reinforcing being placed in the form by a crane, which also closed the form. All necessary adjustments were made at each two-foot station the length of the form, after which the forms were checked by a surveying crew from Disneyland's engineering department.

Ready-mixed concrete with a low slump (2½ to 3½″) was placed directly into the forms from mixer trucks. Because of its low slump, the concrete was vibrated heavily. A 1½-hp vibrator was located on the chute from the mixer to the form, with two 2½-hp vibrators used in the form.

Immediately behind the concrete placement, a finisher trowelled with

Series of photos shows operation of special forms used. Two part forms first open to extract finished girder; then adjusted at stations to produce twisting girders, no two alike; then emptied form dropped into turnover structure before casting another beam.

a wood float. Within two hours the concrete was finished. The form was covered by canvas. In 6 to 8 hours steam curing began.

Steam Curing

Steam curing at from 120 to 140 degrees F. continued from 12 to 16 hours, with a two-inch steam line running through the casting pits distributing heat evenly over the form. A Swiss (Schmidt) hammer was used to measure compressive strength of the concrete to determine length of curing necessary for the desired strength. The steam curing was stopped when the Swiss hammer indicated 3500 psi.

The girder was then ready to be stripped. After polishing and grinding, it was moved to another part of the casting yard for sandblasting. Although close tolerances are required for the top surface, there must be enough uneveness to get necessary traction for the monorail wheels. Sandblasting served this purpose.

Units were then ready to be transported the 4 miles to the Disneyland park in nearby Anaheim, where the James I. Barnes Construction Co. is the contractor for erection of the monorail system, along with the other development work.

Special Concrete Mix

A special concrete mix designed for 3500 psi at 48 hours and a 28 day strength of 5500 psi was used. It was a rich 7½ sack mix, with Pozzolith, and one-half of one per cent calcium chloride added to speed up the setting. Concrete was batched by the Stanton plant of Consoliated Rock Products. Inspection was by Twining Laboratories.

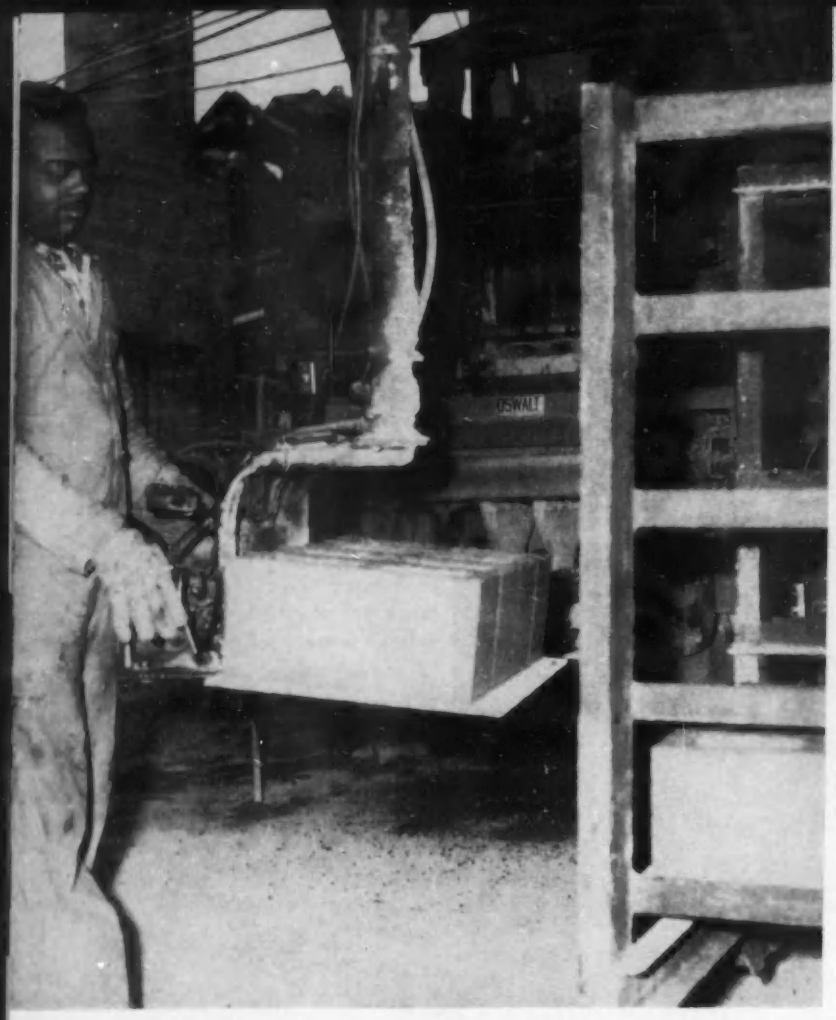
A great amount of reinforcing steel was used in both the columns and beams. From 1000 to 3500 pounds of steel, so dense that micrometer precision was necessary in fabrication, were contained in the columns, depending upon their size. Reinforcing ranged from the smallest bars to #11's and was placed in the forms as a unit.

Reinforcing in the beams totalled about 50 pounds per foot with 16 #6 and #9 bars running horizontally. Stirruping of #4 bars located 2½ to 4" o.c. on curved and straight beams, respectively. Reinforcing cages for both beams and columns were fabricated by Ceco Steel Products Corp.

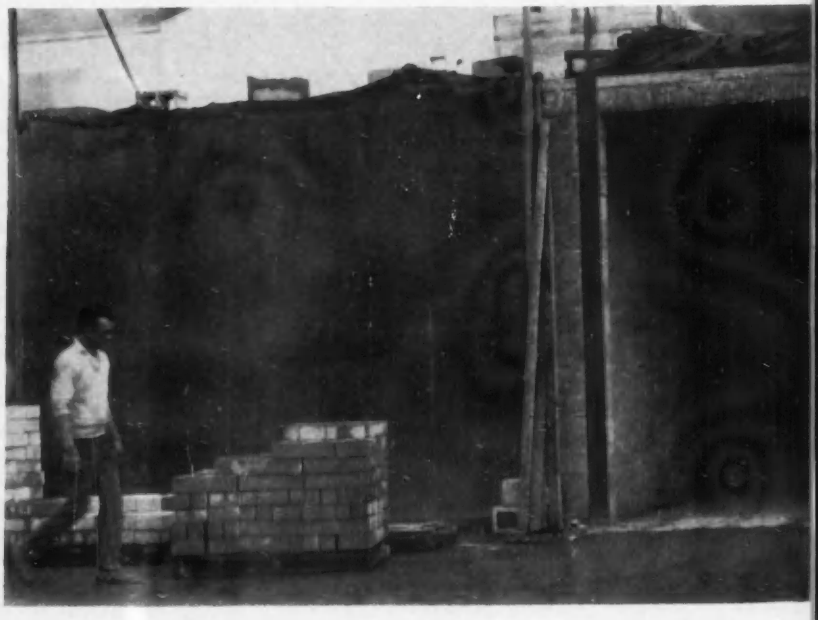
For the Carbon Dubbs Co., Don Rez was the superintendent in charge of the precasting work. O. A. "Bud" Budlong was in charge of the beams, with Glen Sandburg directing casting of the columns.

John C. Wise, chief engineer at Disneyland, designed the monorail system with structural engineers Wheeler & Gray as consultants. A team of Alweg engineers from Germany served in an advisory capacity.

Drying Time



Block is taken directly from the machine and put into rack. Entire rack then goes to steam curing kilns.



Kiln at left is in operation, closed by plastic covered frame and plywood door now being tested at Layrite.

Cut By 48 Hours At Layrite

New dryer installation also gives sales advantages to block

Two recently added drying kilns have reduced block drying time from 72 hours to 24 hours at Layrite Concrete Products Co., in Seattle, Wash.

When, to keep up with the growing demand for a dry pumice block, the addition was being planned, Layrite president and general manager Verne Frese called in Paul R. Melchert, an industrial heat consultant, to design and install the kilns.

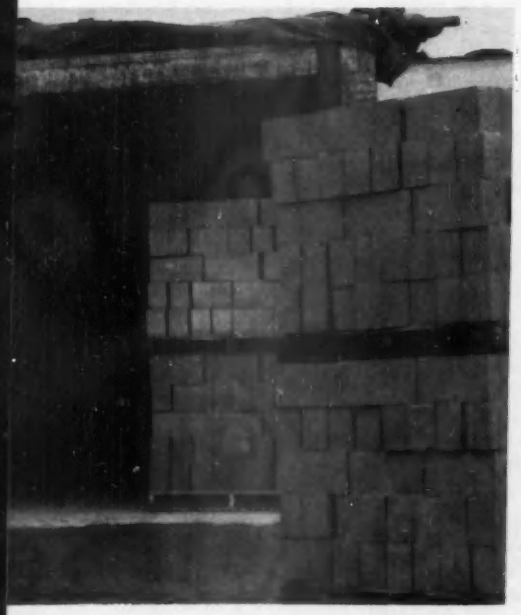
These kilns, using Partlow temperature controls with engineering by Pacific Scientific Co. of Seattle, replace a previous installation in the plant of a Campion accelerator which, Frese says, virtually eliminated all complaints about block shrinkage from the date of its first use in 1952.

"It was in the late '40s that we first began testing to find a method to reduce shrinkage cracks in pumice units," Frese says, "and the Campion dryer solved that problem. Now, increased demand for pumice block and the necessity of shortening our drying time set us to work building new kilns.

"Their use has speeded up production and, naturally, caused some revamping of work schedules. Their value to us or to any plant is best seen from the larger viewpoint of the entire process of manufacture.

"Prior to that examination, however, it should be explained that while we at Layrite also produce blocks with sand and gravel aggregate, our major business and major drying problem is in the pumice aggregate."

The units are taken directly from an Oswalt block-making machine and stacked in metal racks, pre-set for one to two hours, then steam cured for a total of eight hours.



Soaking Period

For this process the temperature in the kiln is 165 degrees. The units soak in this steam for an eight hour period and the moisture content after steam curing is considered at 100 per cent.

After the steam cycle, Layrite ages its units several days. This is done because units dried without aging were found to become brittle and less resistant to breakage.

Loose Cubing Helps Drying

Before placement in the drying kilns the blocks are loosely cubed—32″ x 48″ x 48″.

"Normally this would give a 60-block cube," said Frese, "but to facilitate drying we allow more space between the units so we actually get 58 blocks per cube.

"We also discovered it was wise to use a slatted pallet. With these openings under the core holes of the units we get a chimney action through the cube which further facilitates the drying process."

The cubes are moved into the kilns, which are approximately 10 ft. wide, 12 ft. high and 60 ft. long and together have a drying capacity of 10,440 units of 8 x 8 x 16 inch block.

Continued on next page

Layrite Cuts Drying Time By 67%

Continued from previous page

Once in the kiln, all vents are closed. Three gas burners (using natural gas) fire into the heating chamber and air heated to 400 degrees is blown into the kiln through ducts at floor level.

In the kiln operation, three gas burners, monitored by a Partlow SA-3 safety switch and 270-A pilot burner, fire into a heating chamber. The master control for each kiln is a Partlow RS recording temperature control mounted in the kiln area and actuating the main solenoid valve in the gas supply line.

Kiln Operation

This RS is a recording as well as a controlling instrument, with a 10″ circular chart on which all temperature variations are recorded.

Return air is drawn off at the top through a duct which returns to the heating chamber. Initially, all air is recirculated and for all practical purposes this is a recirculation of steam.

When return air temperature drops to 200 degrees the steam is vented off in a continuous process. Some 25 to 30 per cent of the air is also vented so that the kiln is operating with about 70 per cent recirculated air and 30 per cent fresh air. In this way the humidity is reduced and the moisture is gradually carried off.

Combustion gases are drawn directly from the chamber through the fan, into the kiln, down from the top, out through the blower again and into the kiln. These gases are figured around 2 to 4% carbon dioxide.

"Normally," said Frese, "carbonation shrinkage takes place over a period of years due to the carbon dioxide in the atmosphere combining with the cement in the block. By having a higher concentration of CO_2 and a higher temperature in the kiln we accelerate that process which takes place in an intermediate range of moisture content rather than at complete saturation or complete dryness."

In general, block is considered dry at 30% contained moisture. At Layrite, however, block removed from the kilns is considered dry when it tests between 10 and 20%.

On one job supplying half a million blocks the highest moisture content of any block tested was 19%. A considerable number tested zero. The average for the entire job was 6% contained moisture.

Frese continued. "About half our heavy aggregate block goes through the drying process. All our pumice production goes through the drying cycle except, for example, such products as pumice flue lining, where, as the product is used, its shrinkage will be counteracted by thermal action."

When drying is complete the cubes are stacked under covered but not enclosed storage.

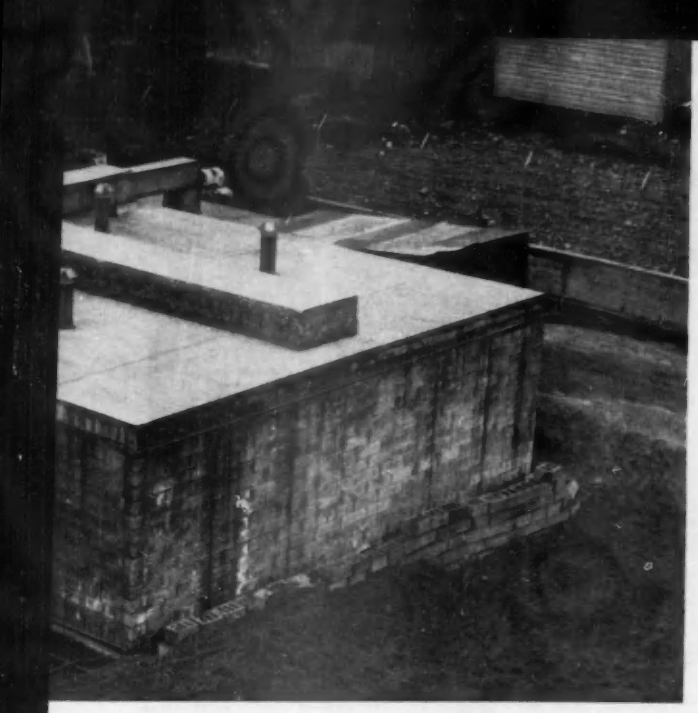
Layrite moves its cubes with small fork lift trucks specially designed by Frese some years ago. Every effort is directed toward reducing individual handling, estimated to cost 2 cents per block.

Regarding the kilns themselves, one minor difficulty occurred when pallets under the cubes closest to the heated air ducts caught fire and burned, with resultant staining of block. Metal flanges were attached to duct openings and the hot air directed upward out of direct line with the pallets.

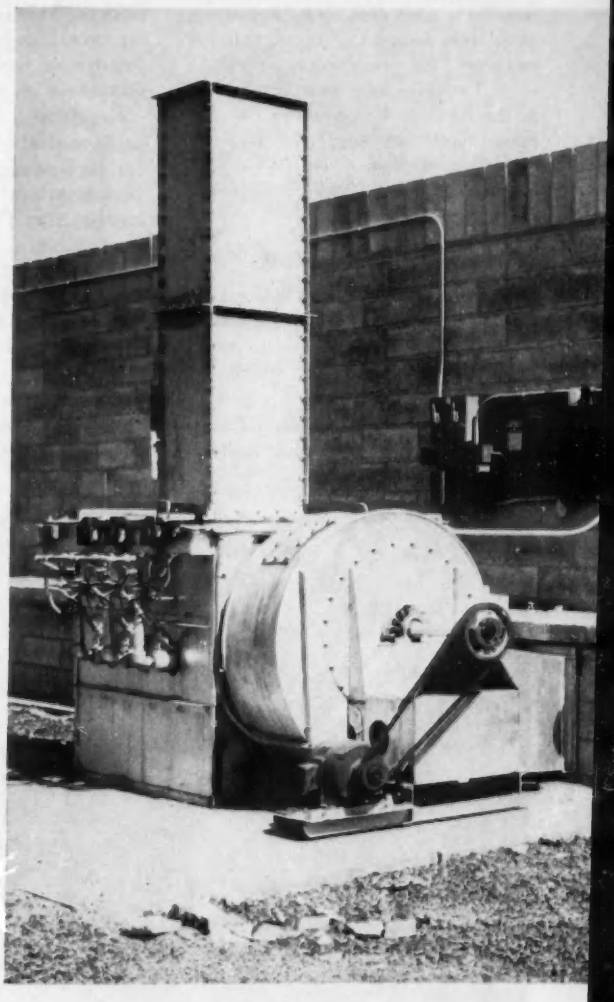
Doors Still A Problem

Still unsolved is the problem of a suitable door for the kilns. Wooden ones burn. Metal ones have various problems including high cost. At present a wooden frame and plywood, plastic-covered door is being tested on one kiln. The other opening is secured with canvas.

In summarizing the overall effects of their new operation Frese commented. "Before we got our original drying equipment in 1952 our policy was never to sell a



At left is overall view of the new dryers; T on top forms return air ductwork; below at right is heat supply, fans for unit.



pumice block less than thirty days old. This time period has been considerably reduced by using the dry kilns.

"In our own case we carry a sizeable inventory and still find that, with standard units where there is a fast turnover, accelerated drying is most necessary to meet product demand.

Product More Saleable

"Further, the units are considerably lighter in color—much whiter—a desirable feature from product acceptance standpoint.

"Also, because we get as much as five pounds of moisture per block out of them, they're much easier to haul. This means greater acceptability by the mason because of ease of handling and placement. Beyond that, the drier the unit the easier it is to cut or saw.

"Breaking down drying costs to an exact figure is not yet complete. From available records a reasonable 'guestimate' is 2 cents per unit, with the largest share of that going into handling the material into and out of the kiln.

Advantage With Architects

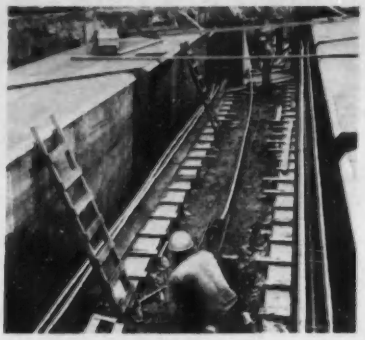
"Probably the greatest advantage to us, both as a firm and as a member of the concrete industry, is that accelerated drying gives us a product highly acceptable to architects. We give him a material with which he can design with confidence.

"For example, at Layrite we've supplied units for buildings utilizing unbroken walls a full city block long with no expansion joints—no cracks.

"When an architect realizes he can do that sort of thing with our construction material he will use our product in future designing. Not only is this good for us at Layrite but it's good for the entire industry."

Conduit, tendons, grouting . . .

Swiss Post-tensioning Method Now Used by Ryerson



Assembly of conduit, wires, anchor head are unreeled and laid in place in the form.

Pre-stressing of concrete by the post-tensioning method is now part of the service provided by the reinforcing division of Joseph T. Ryerson & Son, Inc., according to an announcement from Joseph C. Guptill, national manager for reinforcing products sales. Facilities have been established at the Ryerson Chicago and Los Angeles plants for supplying post-tensioning assemblies, or tendons as they are known, for shipment to job sites throughout the country.

Use Swiss System

There are a number of systems for post-tensioning concrete, including the BBRV system developed in Switzerland by Bureau BBR which has been used by Ryerson.

The Swiss firm's patents relate to the anchor or button head, heart of the system, which permits 40 wires or more within a single metal conduit to be stressed simultaneously. The BBRV system has been used for bridges, buildings, dams, slabs, and for other projects in Europe where pre-stressed concrete has gained wide acceptance as a construction material.

Guptill said that his company had performed the post-tensioning work for the first major highway bridge in Illinois to use this new method of construction. The bridge was built by Cook County, Department of Highways. The general contractor was Thomas McQueen Company which sub-contracted the post-tensioning work to Ryerson.

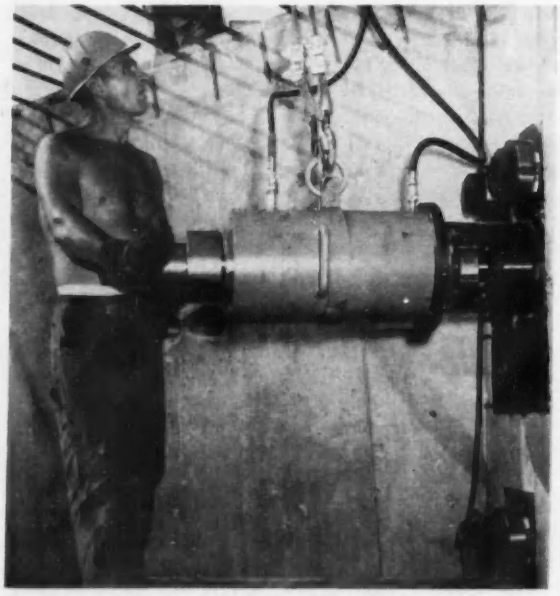
The bridge, which forms a grade separation over the Edens and Northwest expressway interchange, is located about 4600 west on Montrose Ave. in Chicago. It consists of three spans; two abutment spans each 156 feet long, and one center span 152 feet long.

Used 30 Girders

A total of 30 post-tensioned concrete girders, cast at the job site, were used. The girders were cast on the ground in place, eliminating the need to erect falsework or move the girders after casting. Later the earth was removed from beneath the spans. The girders are 7 to 8 feet in depth.

Continued on page 42

Pull bar inserts in the anchor head.



Imported hydraulic jack is used in method.

New portable radios enable you to keep close check on storms and bad weather happening miles away.

The Weather — For 200 Miles Around

There's a simple way for you to check weather conditions all around your area, twice an hour, just by using a portable radio. This sounds like an easy way to check weather for your concrete operations and it is. But the weather radio broadcasts, designed primarily for planes, boats, etc., are relatively unpublicized.

Also, until recently, there haven't been radio sets generally available that would pick up these signals. Now, three makes of portables in various models are available.

So, if you're interested in accurate area weather checks, here's how the operation works:

The Federal Aviation Agency operates a vast network of weather-navigation stations on the 200-400 KC band throughout the U. S. and its territories. At 15 and 45 minutes after every hour of the day or night, these stations broadcast complete summaries of local weather conditions at the stations broadcasting and at as many as eight or ten other FAA stations from 100 to 300 miles or more away in all directions.

Area Weather Picture

In addition, these stations also transmit the "beam" used by commercial and private plane pilots for LF range navigation purposes.

(A similar service is available in Canada and in certain other countries throughout the world.)

At approximately 15 minutes after each hour, these LF range stations report weather conditions observed shortly before the hour at their stations as well as at nearby airfields, supplying a complete weather picture for the area some 80 to 100 miles around the station.

In Chicago, for example, this sequence reports conditions at three Chicago airports — Midway, O'Hare, and Meigs, plus Joliet, Rockford and Springfield, Illinois; Milwaukee, Wisconsin; Muskegon and Grand Rapids, Michigan; and South Bend and Fort Wayne, Indiana.

The data transmitted at this time includes: cloud conditions, ceiling, visibility, wind direction and velocity, temperature, dew point and barometric pressure (this is the figure given for "altimeter").

Sectional Weather Picture

The summary broadcast at 45 minutes after each hour gives weather conditions at the station itself and at major airports several hundred miles away in various directions. In the Chicago area, this sequence includes reports from Minneapolis, Minnesota; Muskegon and Detroit, Michigan; Indianapolis, Indiana; Kansas City and St. Louis, Missouri; Cleveland and Cincinnati, Ohio; and Madison, Wisconsin.

Both weather summaries during each hour give flash advisories if there are dangerous weather conditions within two hundred miles of the reporting station. These include special storm warnings and radar reports giving the location and intensity of thunderstorms, line squalls, etc., their direction and rate of movement. In addition, some FAA stations also broadcast weather forecasts.

The FAA plans over a period of the next three years to gradually replace the present network of LF range stations with a total of 88 high powered stations in this band that will offer continuous weather service.

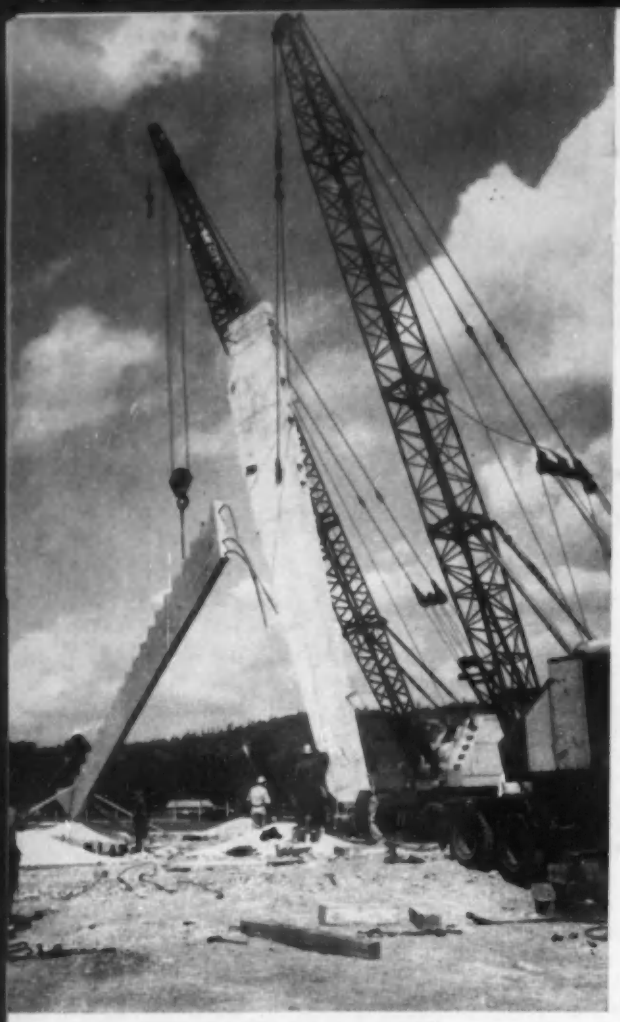
The service will be a continuous tape recording, changed every hour. Each tape will run from five to eight minutes, and then repeat, giving a general synopsis of weather developments and conditions, and an area picture such as is now given twice an hour, plus forecasts which will be much more complete than those now given by a few range stations.

Service from these 88 stations will be better because of the continuous high powered weather transmissions, and because of the longer distances that plane pilots and boat owners will be able to use them for navigational purposes.

Charted Helps

Individual world aeronautical charts (WAC) as well as sectional charts are available which cover the United States, Southern Canada, Northern Mexico, and the Hawaiian Islands.

Although the sectional charts, scaled 8 miles to the inch, show considerably more detail than the WAC charts, scaled 16 miles to the inch, each shows the location of: FAA weather-navigation stations, their call letters and frequencies; certain standard broadcast stations, plus many marine beacons, including their code pattern of identification. (Even if you cannot read code, you will be able to quickly recognize the code transmissions of many of these by studying the code indications listed on each chart.)



Precast the units set them up, pull 'em together

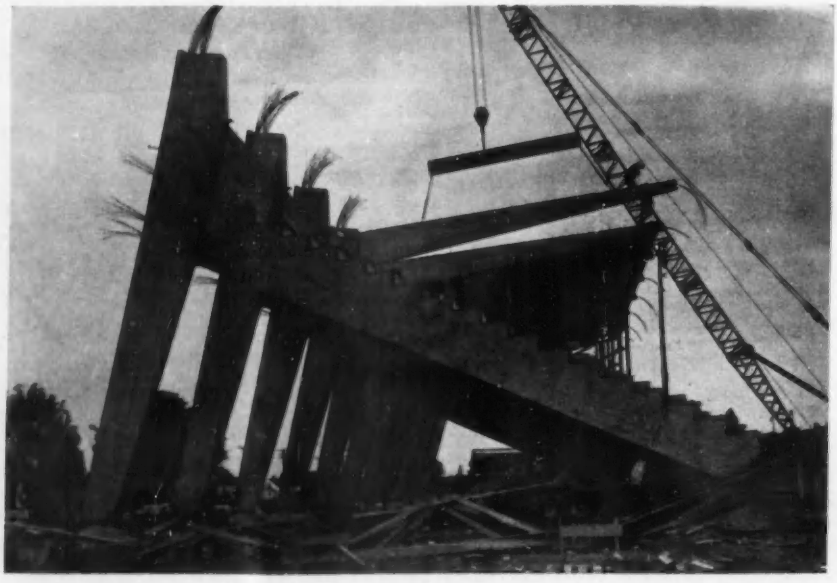
To cope with a site that wouldn't allow usual use of footings, here's how this stadium was built.

"It was just as if you threaded a rubber band through a number of empty spools, then looped an end of the band over a nail and pulled the band as tight as possible."

That description, by one who saw the job under construction, pretty well describes an unusual stadium built of three basic pre-stressed concrete shapes, post-tensioned by steel cables threaded through the members.

The stadium, built for the Sumner, Wash., High School, had to be built this way because of the muddy,

At top, a view of the unusual hyperbolic paraboloid footings used. At right, the roof is going on.



Here's the stockpile of the precast units used in the stadium construction.

quaky site which didn't permit use of conventional column footings.

First, a 2′ layer of gravel was placed over the site. Then footings were built up, forming hyperbolic paraboloids. These footing slabs were only 4-½″ thick but were adequate to support the load.

Rather heavy plastic bearing plates were inserted between the column bases and the footing slab.

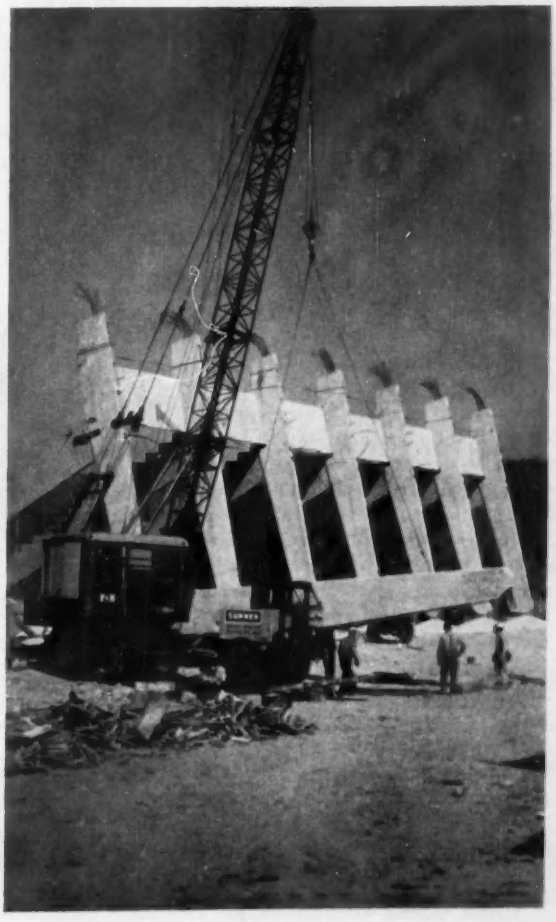
Three Frame Members

The main frame of the stadium consists of three members, all pre-tensioned at the casting plant. These members were a backbone column, a sloping beam member with saw teeth to hold seats, and a cantilever roof beam. Some 350 separate structural members were used in the stadium.

These members were erected by crane and then joined together by high tensile strength steel tendons. When the tendons were tensioned to forces as high as 200 tons by use of hydraulic jack, the structural units were pulled together into a single unit, resembling a monolithic structure.

The casting work design and engineering on this 2,000 seat stadium job were done by Concrete Technology Corp., formerly known as Concrete Engineering Co.

Owners of the Tacoma, Wash. firm are Tom and Dr. Arthur Anderson and H. W. Birkeland. Lea, Pearson & Richards were the architects.



A crane lifts one of the units for setting in place; again, note footings at bottom right of photo.

What's New in

EQUIPMENT and MATERIALS

Cylinder Tester

Designed specifically for testing 6 x 12″ and 8 x 16″ high strength concrete cylinders, either in lab or field, the new Forney model QC-500 is said to be the only low priced compression machine with a capacity of 500,000 lbs.

The machine, taking only 26 x 46″ of floor space, is reported to be so simple in operation that even non-technical personnel can get consistently dependable results. It's further claimed that the QC-500 will break the highest strength specimens with a wide margin of safety and with extreme accuracy under continuous operation. More information in temporary bulletin QC-500.

Forney's, Inc., Tester Div., Box 310, New Castle, Pa.

Enter B40 on Inquiry Card

Weight Indicator for Fork Lift Trucks

Indicators are available to indicate weights being lifted by fork lift trucks, in capacities from 4000 lbs. up to 60,000. Accuracy is within 1% for the 8000 lbs. and up indicators; 2% or better for those on the 4000 to 6000 lb. trucks. A manual tare adjustment compensates for truck weight, tine weight, etc., to allow accurate check of the load being lifted.

The indicator installs into the hydraulic lifting system of most electric or gas trucks, and is located for easy reading by the operator.

Martin-Decker Corp., 3431 Cherry Ave., Long Beach 7, Calif.

Enter B41 on Inquiry Card

Electric Weighing Systems

Electric weighing systems for tanks, bins, hoppers, conveyors and such are described in a new brochure (Bulletin W-100) offered by Gilmore.

The brochure has diagrams, specifications and examples to show how strain gauge load cell weighing systems can be used to indicate, record or control weight of solids or fluids.

Gilmore Industries, Inc., 13015 Woodland Ave., Cleveland 20.

Enter B42 on Inquiry Card

Fly Wheel Drive Power Mixer

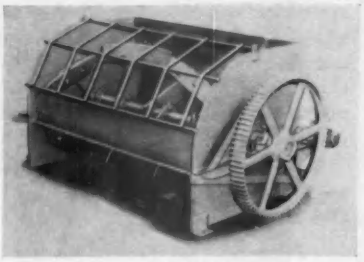
The Rocket truck mixer shown here obtains its power from a new fly wheel drive system, made by Reo, with the power drive said to give transit mix operators a bonus payload increase from 400 to 600 lbs. per trip. This is said to come from elimination of separate engine power.

There's a driving pulley adjacent to the fly wheel, with the fly wheel housing constructed so that a large blister supports the driven rubber belt, in which there are embedded 21 small, multiple strand steel cables. Power is picked up from the output shaft at the blister by means of a universal joint drive shaft to the mixer gear mechanism.

Concrete Transport Mixer Co. is now touring the country, demonstrating the unit shown in the photo.

Concrete Transport Mixer Co., 4985 Fyler Ave., St. Louis 9, Mo.

Enter B43 on Inquiry Card



Concrete Mixers

A group of new, standard concrete mixers, said to offer longer life at lower cost, is now made by General Engines. The mixing bowls use heavy liners which are quickly renewable when worn. Paddles are easily adjustable for fast mixing with minimum power. Replacement costs for the paddles are reported to be half that of ribboned blades.

The mixer bowl is all-steel plate construction, rolled and welded to form a one-piece unit. Discharge doors operate from either left or right hand sides of the mixer.

The dry batch mixers come in sizes from 15 to 60 cu. ft., with other sizes built to specifications.

General Engines Co., Route 130, Thorofare, N. J.

Enter B44 on Inquiry Card

Bulk Scale Bulletin

Specifications and performance characteristics of the E-50 automatic bulk scale, for consecutive or cumulative process weighing by batch or continuous method, are described in a 6 page bulletin.

The book includes special features, dimensions, methods of application and installation, and optional equipment. Booklet 3649A.

Richardson Scale Co., Clifton, N.J.

Enter B45 on Inquiry Card

Pneumatic Vibrator

A pneumatic vibrator, a 7″ model FAC, delivers 16,000 lbs. of impact, operating on 60-80 lbs. of air pressure, according to Cleveland Vibrator, makers of the new unit.

It can be used on vibrating tables, hoppers, large bins, railroad car shakeout and such. Vibrator speed and intensity can be varied according to needs, with operation either continuous or intermittent as desired. Reciprocating action of the 176 lb. piston with 1¼″ stroke is air cushioned for quiet operation. Total weight is 539 lbs.

Cleveland Vibrator Co., Cleveland, Ohio.

Enter B46 on Inquiry Card

Self-Unloading Bulk Materials Transport

A new self-unloading dry bulk materials transport has been introduced by Dorsey Trailers. The unit is known as the Cement Transport model BMC-T. It has three 20″ fill hatches with watertight covers and a twin screw discharge system that unloads at the rate of 5 barrels per minute.

The screws are reversible to dislodge lumps or to prevent bridging. Two stage drives permit discharge of the rear portion of the load before front screws are engaged. Single point 14″ downspout and rubberized nylon discharge boot are also standard.

Dorsey Trailers, Elba, Ala.

Enter B48 on Inquiry Card

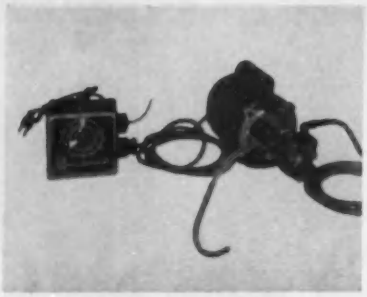
Wide Flange Joints

Rapid Wide Flange rubber control joints for use in masonry walls have Neoprene compound flanges that expand and contract with the joint, keeping it sealed the year around.

Caulking is not necessary in standard concrete block construction. The Neoprene is resistant to flex cracking, heat and cold, weather, not harmed by oils and solvents. The Rapid Wide Flange control joint is packaged in a carton of 12 pieces, 32″ long, weighing 40 lbs.

Dur-O-waL Div., Cedar Rapids Block Co., Cedar Rapids, Iowa.

Enter B47 on Inquiry Card



Automatic Dispenser for Liquid Plasticizers

A completely automatic, remote control dispenser for charging batch mixers with a pre-determined amount of liquid plasticizer has been produced by Edick. The dispenser is intended to be tied into completely automatic plants where no mixer man is used.

The dispenser, plugged into 115 volt, 60 cycle, AC lines, works this way: the pointer sets to the number of bags of cement (one second per bag) in mix design. For completely automatic operation, the timer is plugged into a remote momentary contact-type normally open switch.

The momentary contact activates the timer which controls the pump for automatic charging of the liquid admixture. The timer, dispenser and supply drum can be located up to 50' from the mixer. The dispenser also has a manual control button for optional use in place of the remote switch.

Edick Laboratories, 2358 S. Burrell St., Milwaukee 7, Wis.

Enter B49 on Inquiry Card

White Manual For Drivers

The latest edition of the White driver's manual for truck owners, fleet operators and drivers is now available. The 158 page book is designed to help conserve equipment and keep it operative. Sections include ideas on correct starting, road practices, parking, etc. The manual costs $1.25.

Sales Promotion Dept., White Motor Co., 842 E. 79th St., Cleveland 1, Ohio.

Enter B50 on Inquiry Card

New Yellow Twig

A new yellow colored metal twig has been designed by Gerson Co. The twig snaps completely around the mason's line, taking sag out of the line and preventing wind whip. The yellow color protects the twig and makes it easy to find in toolbox or job.

Gerson Co., 87 Deering Road, Mattapan 26, Mass.

Enter B51 on Inquiry Card

Whitest . . . BY ANY STANDARD

Whitest in the bag
Whitest in the mix
Whitest in the completed job

There are so many places where it is better to use Trinity White. It is a *true* portland cement with the "greys" and "off-color casts" eliminated. Use it for architectural units; stucco; terrazzo; or any other job where appearance is important in good concrete. If your dealer does not carry Trinity White, write us direct.

A product of GENERAL PORTLAND CEMENT CO.
CHICAGO • DALLAS • CHATTANOOGA • TAMPA • LOS ANGELES

Trinity White
PORTLAND CEMENT

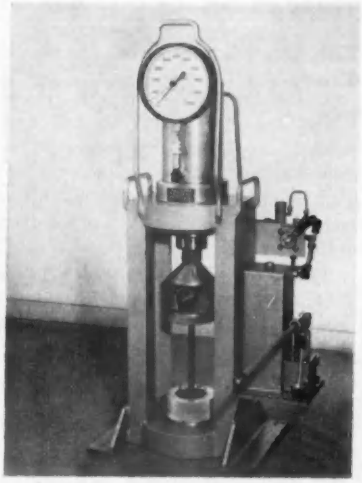
As white as snow

Aerosol Belt Dressing

A new aerosol form belt dressing which can be sprayed on moving transmission belts has been announced by Graton & Knight; tradenamed Sprazon. The can is held 12-15" from the pulley and sprayed on without workmen's hands and arms getting in the way of belts or pulleys. Sprazon can be used on Vee, rubber, fabric or leather belts.

Graton & Knight Co., Worchester 4, Mass.

Enter B52 on Inquiry Card



Portable Compression, Tension Tester

A new portable combination compression-tension testing machine makes it possible to test concrete cylinders or reinforcing bars for strength in field or lab.

The compression capacity in testing 6" diameter standard concrete cylinders is 200,000 lbs. The hand operated tester is entirely self-contained, with no pressure or electrical connections needed.

It also tests specimens in tension up to a 100,000 lb. load capacity, making it possible to test concrete reinforcing bars; tension grips are included.

Soiltest, Inc., 4711 W. North Ave., Chicago 39.

Enter B53 on Inquiry Card

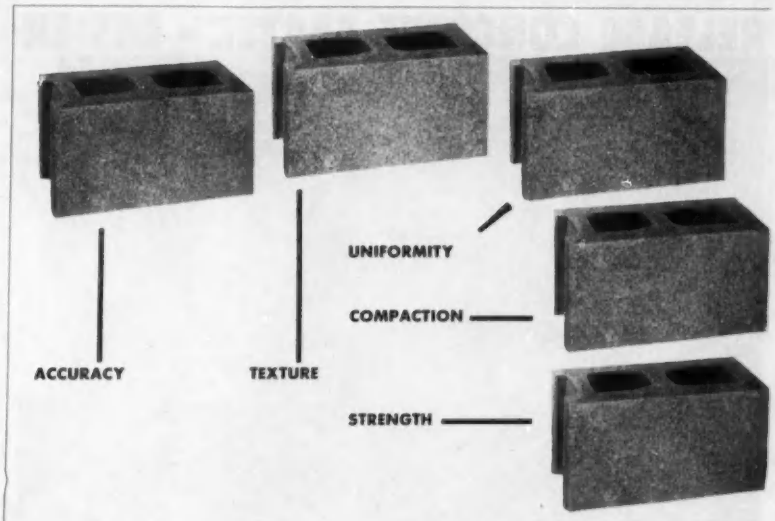
Transit Mixer Book

Features, specifications and photographs of the line of transit mixers and a portable batch plant are given in a new "fact portfolio" available from the transit mixer division of Hercules Galion.

Three lines of mixers, in various sizes, are described as is the weigh batcher-loading conveyor combination that makes up the company's portable batching plant.

Hercules Galion, Galion, Ohio.

Enter B54 on Inquiry Card



check your blocks for Quality

The OSWALT Model 60 Block Machine with its modern electric control system takes the guesswork out of production, and gives you a continuous automatic check to maintain the uniform quality of the blocks.

This efficient equipment is a good investment to make now, because it will enable you to take fullest advantage of improving business conditions.

It will help to widen your market by supplying your trade with the best made block in your area.

It will protect your profits by delivering more perfectly formed blocks per hour at a lower unit cost without sacrifice of quality.

Model 60 Block Machine is a composite of all the Oswalt services, developed in recent years—see what these features can mean to you—by writing for complete details.

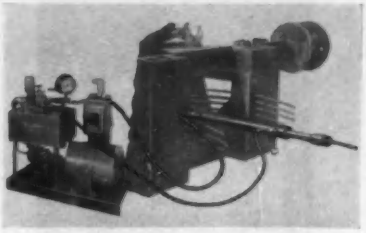
If you are building a new plant, or modernizing your present one, let Oswalt engineers aid you in planning the installation.

OSWALT ENGINEERING SERVICE CORP.
1335 Circle Ave., Forest Park, Ill.
Phones: ESTebrook 8-4664 (Chicago) • FOrest 6-2798 (Suburban)

Cable Tensioning System for Concrete Prestressing

A new system has been added to the line of concrete prestressing, pretensioning and post-tensioning equipment of Templeton, Kenly & Co., with the new one called No. X349 Center-Hole Simplex Single-Strand Tensioning Unit.

The unit consists basically of a hydraulic pump and center hole ram. The maker says the new unit features a lower cost, faster operating, lighter weight tensioning system. With this system, the time to tension one cable on a 300′ bed is about one minute. One advantage claimed is a 90% savings on equipment cost with a small capacity jack replacing four



heavy capacity jacks, and a small pump replacing a large one. Two units available, one for 200′ bed and the other for 300′ bed.

Templeton, Kenly & Co., 2525 Gardner Road, Broadview, Ill.

Enter B55 on Inquiry Card

RELEASE CONCRETE FASTER • EASIER

Photo, courtesy of Maramonte & Son Inc.

USE EDI-COTE NO. 103

This 4 year old mixer has never been touched with a hammer of any kind! Air guns and sledges are not allowed—yet it's as spanking clean as the day it was installed! Edi-Cote #103 has helped keep this mixer in top shape with minimum effort!

New formula Edi-Cote #103 (an improved version of the original and still largest selling release agent) forms a bond-resistant film on exposed surfaces. Concrete can't stick.

Clean up time is more than cut in half—and productive hours increased.

A stiff brush and putty knife is all that is required to clean—as concrete cannot harden to metal protected with Edi-Cote #103.

Edi-Cote #103 won't stain and discolor first batch as will drain oil—or weaken the concrete as will soluble oils!

One application lasts all day! It pays to use the new Edi-Cote #103!

We guarantee—that if you use Edi-Cote #103 30 days as directed, and you are not satisfied—we will refund your money in full and pay you 6% interest, plus all freight costs!

Available in
5 gallon cans @ $1.75 per gallon
30 gallon drums @ 1.58 per gallon
55 gallon drums @ 1.39 per gallon

ORDER EDI-COTE NO. 103 TODAY • PROVE IT TO YOURSELF!

MANUFACTURED AND DISTRIBUTED BY

Edick LABORATORIES, INC.

2358 S. Burrell St., Milwaukee 7, Wis.

Concrete Maintenance Products Described

Detailed information on a line of more than 33 quality products for concrete and masonry construction and building maintenance is given in a new manual, AIA file numbers 3-B, 4 and 7.

Formulations include uses for concrete surface treatments, concrete integral mixtures and waterproofing and dampproofing compounds.

Tretol, Inc., 6531 W. 63rd St., Chicago 38.

Enter B56 on Inquiry Card

Penn-Dixie Cement Dividend Increased

The directors of Penn-Dixie Cement Corp. have increased the quarterly dividend on the company's capital stock from 30 cents to 35 cents a share. The dividend is payable June 15, 1959.

Kenneth Cummins Named ACI Technical Director

Appointment of Kenneth D. Cummins, formerly associate professor of civil engineering, University of Detroit, as technical director of the American Concrete Institute was recently announced by the Institute's board of directors in Detroit.

Cummins received his B. S. in civil engineering from the University of Detroit in 1948 and his M. S. in structures from the University of Michigan the following year. Upon graduation, Cummins accepted a position with the engineering staff of U of D and served in that capacity until joining ACI.

While at the University of Detroit, Cummins was engaged in teaching soil mechanics, highway engineering, reinforced concrete design, and structural steel design.

Cummins' duties will include field and office work to promote and improve technical relations with other technical societies and organizations, assist member groups in organizing and conducting small local meetings, and upon request, to assist ACI technical committees in preparation of reports.

IT HAPPENS EVERY DAY Latest Rulings in Labor Relations

CAN YOU DISCHARGE AN EMPLOYEE WHO REFUSES TO WORK OVERTIME ?

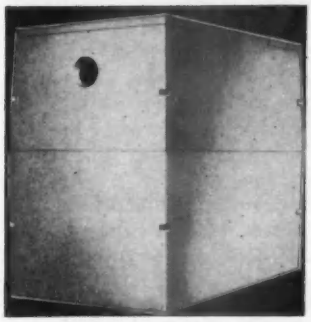
JIM, WE'RE COUNTING ON YOU TO STAY TONIGHT AND HELP OUT. WE'LL PAY OVERTIME.
SORRY BOSS, I'VE GOT TO MAKE THE 5:15.
JIM, THIS MAKES SEVERAL TIMES YOU'VE RUN OFF AND LEFT US IN A JAM. HERE'S YOUR FINAL CHECK!
WE'LL SEE ABOUT THAT.
PRIVATE
WE'VE WARNED JIM SEVERAL TIMES---
I HAD TO MAKE A TRAIN!

ARBITRATOR'S DECISION

YES, IN ABSENCE OF CONTRACTUAL LIMITATION, EMPLOYER HAS RIGHT TO *REQUIRE* OVERTIME WORK WITHIN REASONABLE BOUNDS.

Based on a 1959 Arkansas Decision

NORWALK APPROVED SEPTIC TANK MOLDS



IN A SELECTION OF MODELS ENGINEERED TO MEET YOUR SPECIFIC HANDLING PROBLEMS

All styles meet the specifications of Federal, State and Municipal regulations

All NORWALK tanks are available in 500 to 2,000 gallon capacities.

- **THE TWO PIECE TANK with tongue and groove seal (illustrated)**
- **THE ONE PIECE TANK with slab top**
- **THE DEEP TOP TANK with air space cover**

Distribution box molds and grease trap molds.

Build approved septic tanks quicker and at lower cost with NORWALK equipment. Rugged, all steel construction, properly reinforced to insure a good, rigid mold that will give many years of profitable production.

Write for detailed information • Financing may be arranged

THE NORWALK VAULT CO.

Dept. AB • Norwalk, Ohio

IMMEDIATE DELIVERY

on all standard Heavy Duty

Columbia **RACKS**

Standard heavy duty racks are shipped to your plant from either Mattoon, Ill., or Vancouver, Wash., within hours of the time your order is received.

Ask about our Special Racks for Automation.

Orders will be processed promptly.

PALLETS...precision made and guaranteed...exact in size and shape with no warp or bur. Standard steel pallets 1/4" x 18" x 20", or 5/6" x 18 1/2" x 26", or special sizes to fit your operation.

Contact your Columbia representative or write, wire or phone.

Columbia **MACHINE**

Home Office: 107 Grand Blvd., Vancouver, Wash.
Branches: Mattoon, Illinois; Burbank, California

Manufacturers and world-wide distributors of a complete line of plant equipment for production of concrete products

Dodson's Digest

Countdown

Red "Hurry Up" Bronson is a lanky engineer with a mop of flaming hair and a restless impatience that earned him his other nickname. Today he's one of my best boosters for Calcium Chloride—but with him it had to happen in a dramatic way that we both laughed about later.

He'd been pouring concrete for a new hospital, and I'd finally talked him into using Calcium Chloride in the mix on a short stretch of sidewalk. As usual, he took test cylinders, and after three days we met in the local testing laboratory. The technician wasn't in, but that didn't stop Red Bronson. "I'll check the compressive strength myself," he said, grabbing a cylinder and adjusting it in the machine.

"You'll find the concrete a lot stronger," I said to Red's bobbing figure. "That's because Calcium Chloride accelerates the hydration of the cement, and——"

Suddenly Red's voice began booming off the readings like a countdown in reverse. "1800 p.s.i., 1900 p.s.i., 2000 p.s.i. . . . 3700 p.s.i., 3800 p.s.i."

By now, Red's eyes were bulging slightly out of his head, and I was too astonished to speak. When the reading reached 4500 p.s.i., he exploded. "This is fantastic, Dod! Twenty-eight-day strength in just seventy-two hours! I've got to call the ready-mix plant right now and tell 'em to start adding Calcium Chloride!"

Before I could stop him, he slammed out of the room toward a phone—brushing by the technician, who entered with a small man carrying a tool box. "It's this compressive-strength tester," the technician was saying. "The gauge is way off, and I'd like to get it fixed before some impulsive guy comes in and tries to make a test while I'm gone."

—L. D. Dodson

P.S.—Our free booklet, "How To Make Better Concrete Products and Ready Mix," builds a strong case for adding Wyandotte Calcium Chloride. Send for a copy soon. *Wyandotte Chemicals Corporation, Wyandotte, Michigan. Offices in principal cities.*

Wyandotte CHEMICALS

WYANDOTTE CHEMICALS

MICHIGAN ALKALI DIVISION

HEADQUARTERS FOR CALCIUM CHLORIDE

Accidents

Continued from page 21

should emphasize the need to have vehicles under control at all times.

Nine per cent of on-the-road accidents involve failure to yield right-of-way. This shows lack of knowledge of basic traffic rules and regulations and should be emphasized in any safety program. Along with the failure to yield right-of-way accidents, we can charge 6% to changing lanes and approximately 1% to entering intersections without due caution and to improper left turns.

As you know, these types of accidents are not spectacular but I am sure they represent the same type mishaps we are all faced with. This group of on-the-road accidents represents 22% of our complete accident picture. If we now add our 6% yard accident rate and our 22% road accident rate, we have accounted for 28% of our accidents.

Maintenance Program

Before we get into any discussion on the third or highest percentage accident phase, we must focus attention on our garage and maintenance program. The success of our safety programs cannot be assured without full cooperation from the people in our organizations responsible for proper repair and maintenance of our vehicles.

Our company has been fortunate in not having any major mechanical failures which resulted in a serious accident. However, I know that some companies have had some tragic experiences along this line.

Since good maintenance and adequate tire programs go hand in hand with any safety program and do contribute towards the increasing or reduction of accidents, I wouldn't want to pass on to the next phase without briefly mentioning it.

On-The-Job Accidents

No accident discussion in the ready mixed concrete industry can be complete without the next classification which represents 72% of our accidents. Your percentages and experiences along this line, I am sure, will be different but I am confident that upon thorough investigation you will find your accidents fairly near the same proportions.

On-the-job is where we have trouble and 70% of this big percentage category is caused by unsafe backing.

We have hit houses, buildings, lumber piles, brick piles, wheelbarrows, tools, men holding chutes, and have numerous lists of other objects. Many of these accidents didn't involve personal injury but we feel that many of them could have been avoided if we had been driving this message about unsafe backing home to our drivers via a good safety program.

The unusual contractor demands and the size of our trucks and inability of the driver to see clearly all play a role in making it easier to become involved in this type. I am sure that all safety directors and driver trainers should put special emphasis on these accidents and attempt to put across to their drivers the high percentage of this type of accident in our industry.

Chute Accidents

I am sure that chute accidents, by nature difficult to prevent, cause more damage in this category than any other single factor.

Driving over or backing on lawns, sidewalks, asphalt drives accounted for 24% of our on-the-job accidents and the other percentages were made up by minor incidents but at least 5% were caused by trucks driving too close to foundations which had been recently backfilled and resulted in much wall damage, even though the walls were not actually hit.

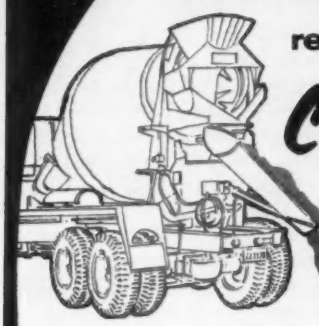
This again is difficult to control as we are putting our equipment into unsafe places due to contractors' demands. Good driver judgment in this case seems to be the most effective remedy.

In summation, it should be pointed out that we, as concrete producers, are buying good, safe equipment but remember this equipment is not designed with safety as the primary factor. It is our responsibility to keep them operating safely by enforcing good maintenance practices.

This equipment is designed so that we may haul as much concrete as possible legally and for this reason front ends are over-loaded, truck.

Continued on page 42

Colored ready-mixed Concrete



10 DIFFERENT COLORS

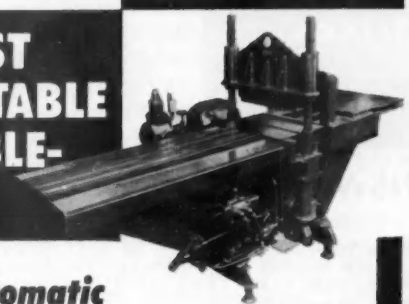
- ECONOMICAL—costs very little extra per square foot . . .
- DURABLE—color all-the-way through the concrete . . .
- PERMANENT—to weather and sunlight . . .

For further information and color card write to

FRANK D. DAVIS CO.
3285 E. 26th STREET LOS ANGELES 23, CALIF.
eastern office:
P.O. BOX 292 NIXON, NEW JERSEY

Columbia BLOCK SPLITTERS

FAST PROFITABLE TROUBLE-FREE



fully automatic

The new Columbia fully-automatic splitter is designed for continuous output at high speed. With its extra long take-away table, will split as fast as the operator can load the magazine. Handles up to 8" in height, up to 24" in length. Immediate delivery from Mattoon, Ill., or Vancouver, Wash. Also available in semi-automatic.

For further information write, wire or phone.

Columbia MACHINE
Home Office: 107 Grand Blvd., Vancouver, Wash.
Branches: Mattoon, Illinois; Burbank, California
Manufacturers and world-wide distributors of a complete line of plant equipment for production of concrete products

DUR-O-WAL

COMPARE THESE WEIGHTS

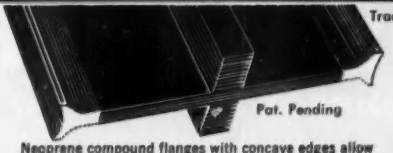
Standard Dur-O-waL 187 lbs. per 1000 ft.
Standard Ladur Type 139 lbs per 1000 ft.

Insist on genuine Dur-O-waL for crack-free masonry walls with a backbone of steel

IT'S THE **Steel + Design** THAT ASSURES **Results**

New Companion Product for Masonry Walls

Rapid CONTROL Joint

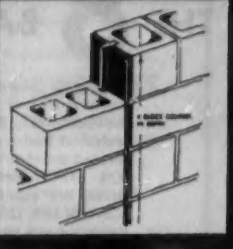


Trademark
Pat. Pending

Neoprene compound flanges with concave edges allow easy compression and tight control joints.

WIDE FLANGE

Wide Flange rubber control joint shipped in convenient cartons.



DUR-O-WAL

Rigid Backbone of Steel For Every Masonry Wall

Dur-O-wal Div., Cedar Rapids Block Co., **CEDAR RAPIDS, IA.** Dur-O-wal Prod., Inc., Box 628, **SYRACUSE, N. Y.** Dur-O-wal Div., Frontier Mfg. Co., Box 49, **PHOENIX, ARIZ.** Dur-O-wal Prod., Inc., 4500 E. Lombard St., **BALTIMORE, MD.** Dur-O-wal of Ill., 119 N. River St., **AURORA, ILL.** Dur-O-wal Prod. of Ala., Inc., Box 5446, **BIRMINGHAM, ALA.** Dur-O-wal of Colorado, 29th and Court St., **PUEBLO, COLORADO** Dur-O-wal Inc., 165 Utah Street, **TOLEDO, OHIO**

Accidents

Continued from page 40

mixer combinations are top-heavy, and in our eagerness to increase payloads with this type of equipment, we must not only get safety over to our men, but stress to company management their responsibility in this program. I urge every member to look his accident figures over carefully.

In eight years we have had 308 accidents: 6% yard; 22% on-the-road; and 72% on-the-job. Incredibly, over half of these occurred while the trucks were backing up. In our future program we will concentrate on cutting first of all our on-the-job and backing up type accidents. Because of the serious need for results in this field of accidents, our safety director is making a concerted effort to knock this high rate down to a minimum.

YOUR MIXER QUESTIONS are answered!

WITH A...

STEARNS

DIRECT GEARMOTOR DRIVE MIXER!

Available in 42 and 50 cu. ft. capacities and the new 75 cu. ft. "Double Drum"

THE 8 BASIC QUESTIONS ANSWERED!

1. Stearns Gearmotor Drive Mixers ELIMINATE the clutch and pulley, V-belt drive, countershaft and countershaft bearings, drive gear and pinion . . . FOR REDUCED MAINTENANCE. **2.** Stearns Gearmotor Drive Mixers feature the gearhead in a sealed oil bath . . . FOR LONGER EFFICIENT OPERATION. **3.** Stearns Gearmotor is coupled direct to bladeshaft by flexible coupling, packed in lubricant and enclosed . . . FOR SAFETY AND SMOOTH—QUIET OPERATION. **4.** Stearns Gearmotor Drive Mixers are equipped with the *best* antifriction thrust bearings available . . . FOR LONGER LIFE, LESS DOWN-TIME. **5.** Stearns Gearmotor Drive Mixers are standard equipped with Ni-hard sectional type, interchangeable liners, and Ni-hard blades . . . FOR MAXIMUM WEAR-RESISTANCE AND DURABILITY. **6.** Stearns Gearmotor Drive Mixers feature pneumatically operated discharge door with fingertip control* . . . FOR HIGH SPEED BATCH HANDLING. **7.** Stearns Gearmotor Drive Mixers offer the exclusive materials sampling door* . . . FOR OPERATOR SAFETY AND QUALITY CHECK. **8.** Stearns Gearmotor Drive Mixers are standard equipped with water distributing manifold and grid drum cover . . . THE MOST COMPLETE MIXER FOR THE CONCRETE PRODUCTS INDUSTRY.

Write for Illustrated Folder and Full Details—TODAY! *Optional on smaller mixers

STEARNS
MANUFACTURING COMPANY • INC.
ADRIAN • MICHIGAN • U. S. A.

Ryerson Tensioning

Continued from page 30

There are seven tendons running through each girder from end to end. The tendons form a parabolic curve with its low point at the center of the girder — thus distributing the stresses in the most efficient manner possible. Each tendon consisted of 40 steel wires encased in 2-½ inch diameter conduit. The wires are ¼ inch diameter cold drawn and stress relieved steel, manufactured by American Steel and Wire Company.

By the use of additives, curing time for the concrete was reduced to approximately 10 days. It was then pre-stressed.

Portable Jack Tensions

Tensioning is done with an easily portable hydraulic jack capable of developing a force of 200 tons. The wires are stretched a pre-determined distance, to produce the desired prestressing force. Each 40-wire tendon used on the Illinois bridge job imparted a force of 360,000 pounds to the girder.

To insure accuracy in measuring the force, Ryerson used special equipment imported from Switzerland because no comparable equipment was available in this country.

After the wires have been tensioned and anchored, grout is forced into the conduit and around the wires at pressures of approximately 150 pounds. Experience has proved that this system of grouting provides a positive method of bonding the wires into the concrete, Guptill said. In fact, the bond is so strong that in many applications end anchoring devices can be removed after grouting, he added.

In addition to supplying the post-tensioning materials, Ryerson prepares complete placement drawings, Guptill reported. He said that an important advantage to the contractor was that great forces can be developed with fewer tendons under the BBRV system, which simplifies the concrete pouring operation. Smaller units can be furnished, however, for applications not requiring the larger tendons, Guptill stated.

Maule Promotes Safety In Swimming

In support of a current Miami, Fla., community "Learn to Swim" drive, Maule Industries has put signs like this one on all of their 162 mixer trucks operating in the Miami-Ft. Lauderdale area.

The driver here is Red Albury of the Maule Beach Yard in Miami. The sign notes that "Rockpits are for fools—good swimmers use beaches and pools."

New "Fire Resistance" Edition by Underwriters

The National Board of Fire Underwriters has published a revised edition of "Fire Resistance Ratings." It contains a number of tables of types of construction which provide fire resistance ratings required by building codes, plus types of construction incorporating many new materials.

The revision is of the edition dated January, 1957.

Revised Edition of Calcium Chloride Book

A revised third edition of the 64 page manual, "Calcium Chloride in Concrete", is available from the Calcium Chloride Institute, 909 Ring Building, Washington 6, D. C.

Lone Star's Callery Dies

James F. Callery, 63, publicity manager of Lone Star Cement Corp., died June 10. Funeral services were held at Larchmont, N.Y. on June 13.

Forrer's XL-100 Powdered

Concrete Plasticizer

does a better job . . . yet costs less!

Costs only ¼c per bag of cement

Cut your plasticizer costs to the bone with XL-100 dry powder. It weighs less — goes farther and does a better job. New process brings you a plasticizer that acts faster, takes 1/3 the amount (by weight) and does a superior job. Concrete blocks are shades whiter, denser and outside surfaces have smoother texture. Increase contractor, builder satisfaction — deliver a better block for less than 1/4c per bag of cement. Investigate Forrer's XL-100 today!

COMPARE! SEE THE AMAZING DIFFERENCE!

Forrer's XL-100 is a dry hydrated powder with wetting and dispersing agents. It's easy to use and economical too — costs but ¼¢ per bag.

Send for FREE Trial Sample Today!

FORRER'S, 2225 N. Humboldt Avenue, Milwaukee 12, Wis.

FORRER'S
STAR PRODUCTS FOR MASONRY

★ X-L 100. Powdered concrete plasticizer
★ Kleen-Mix. Eliminates "build-up" on hoppers and mixers
★ For-Air. Concentrated air entraining agent
★ Forrer's KCS — Kolor Control System Colors match — batch after batch

National Sales Representatives for:

RAMSEY PRODUCTS

★ A.B.C. Automatic Batching Controls. Completely automatic weighing, mixing and handling
★ Sand Moisture Probe. Measures sand moisture content
★ Moisture Meter. Regulates water in concrete mix automatically
★ Calcium Chloride Dispenser Automatic batching control.

Forrer's
PRODUCTS FOR MASONRY
SINCE 1924

COMMENT
from the
BUTLER ENGINEER

Of a new baby's birth . . . and Ready Mix on the Moon

A new baby is born and not only that, but is born in full maturity — completely adult and functioning well. It's the Concrete Plant Manufacturers Bureau of the National Ready Mixed Concrete Association. For short it's called CPMB. Remember it, for it will be of great importance to the Ready Mixed industry.

The CPMB is comprised of Butler Bin Co., and six other manufacturers of concrete plants.

The Bureau is counseled by Vince Ahearn, the highly respected Executive Secretary of the NCMA, and Ken Tobin has been made Executive Secretary of the CPMB.

The entire purpose is to set up approved designs, specifications and standards. Nomenclature too, is to be standardized, for this is an area which at times has been pretty cloudy. In other words, to obtain an exact definition of "automatic batcher, semi-automatic, manual" and many other technical terms.

The whole effort definitely redounds to the benefit of the producers of Ready Mixed Concrete.

Of great significance is the high degree of automation in Roadbuilders and Ready Mix Plants designed today. NOT very long ago an order for an automated plant was, as the booksellers say, "Excessively rare." Now an order for a manual plant makes everyone wonder what the Sam Hill it's to be used for.

Today we're momentarily expecting someone to say "Look, I'm in the market for a plant to batch concrete on the moon."

Well, we haven't one quite as portable as that — yet — but we will when there's enough demand.

The Butler Engineer

BUTLER BIN COMPANY
WAUKESHA, WISCONSIN

Marietta Concrete Merges With American-Marietta

Marietta Ohio Concrete Corp. has announced the merger of its business and operations with American-Marietta Co., one of the nation's larger producers of construction materials.

In Chicago, Robert E. Pflaumer, president of American-Marietta, said that Marietta Concrete would be operated as a part of the parent company's Concrete Products Division.

F. L. Christy

F. Leonard Christy, president of Marietta Concrete, Pflaumer related, will continue as the chief operating officer. R. Neil Christy will maintain responsibility for engineering and production and the entire organization will remain intact.

Marietta Concrete is a 43-year-old producer of concrete industrial storage silos and bins, and concrete stave farm silos. It also manufactures precast concrete curtain wall panels, and other structural components, including beams, columns, arches, lintels, and roof decks, and makes a lightweight aggregate called Beslite which is used in concrete mix and precast forms.

Marietta Concrete markets its products primarily in the eastern and southeastern United States, and maintains production plants in Marietta, Jamestown, N. Y., and Baltimore, Md. It has branch sales facilities in Charlotte, N. C., and Nashville, Tenn. Peak employment of the firm during the year reaches 400 persons, and its sales in 1958 exceeded $6,000,000.

"Both companies are bound to benefit from pooling the wide experience each has acquired in the field of precast concrete." Pflaumer said.

Concrete products currently produced by American-Marietta include reinforced concrete sewer, drainage and culvert pipe, prestressed concrete bridge decks, concrete roof and floor beams, and irrigation pipe. In addition to its concrete products, American-Marietta produces a variety of construction materials, and paints, industrial, and household products.

Safety Council Publishes Truck Driver Safety Tips

A new 20 page publication, "A Professional Code for Defensive Driving" has been published by the National Safety Council. The book concerns defensive driving for truck drivers, more or less being a safety code for professional drivers.

The address of the National Safety Council is 425 N. Michigan Ave., Chicago 11, Ill.

No Matter What SIZE...

No Matter What SHAPE...

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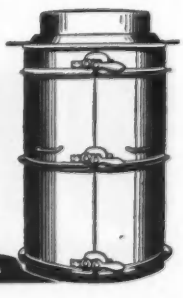

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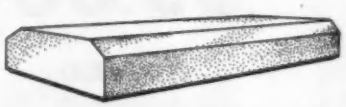

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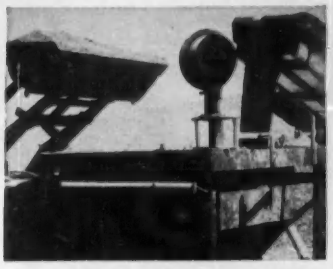

CARDINAL SCALE installation in Mobile Mix, Inc., plant, Hutchinson, Kansas.

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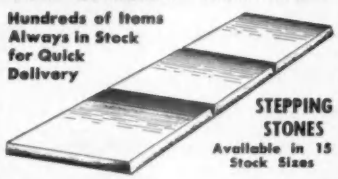

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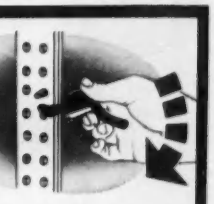

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Handling equipment with fingertip control . . .
SAVES PRODUCTION TIME
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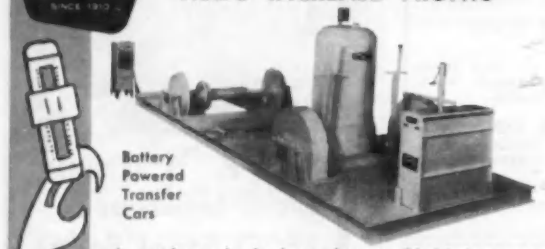

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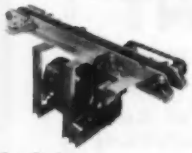

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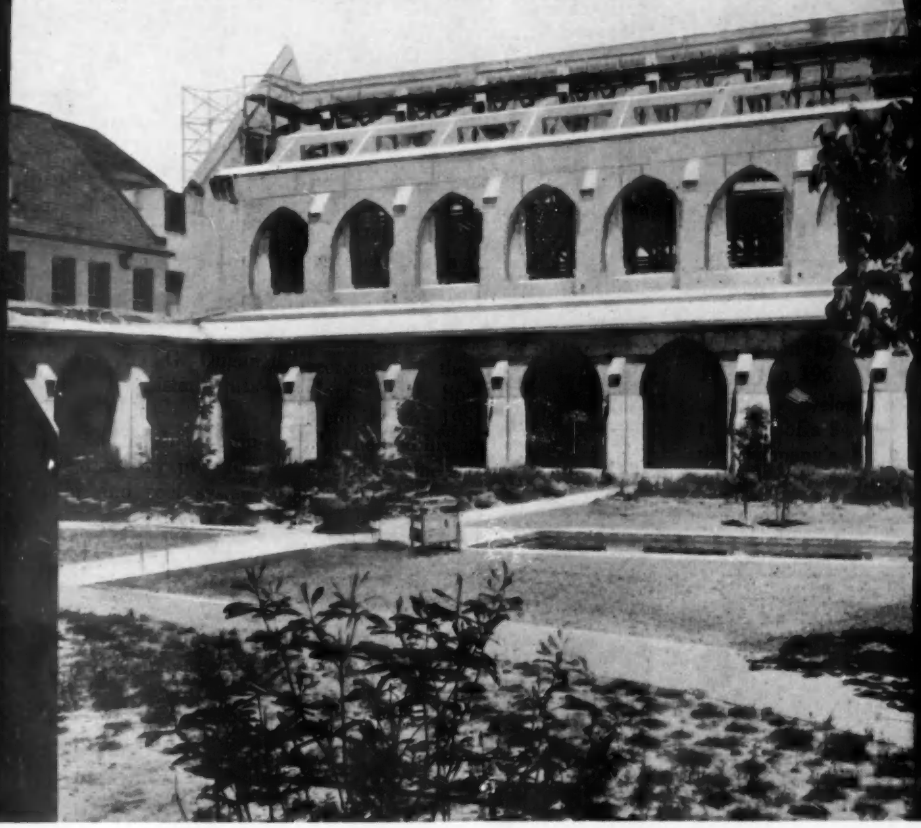
modern material

The Trappist Cistercian monks of the Abbey of Our Lady of the Holy Ghost have, since 1950, been constructing with their own hands a church and monastery at Conyers, Georgia. The pure Gothic design is being translated into reality with cast-in-place reinforced concrete. Uniform color and texture are being achieved through the use of Penn-Dixie cement mixed with manufactured sand and aggregate from a natural granite. Monastery wings should be finished this year, the church in 1960.



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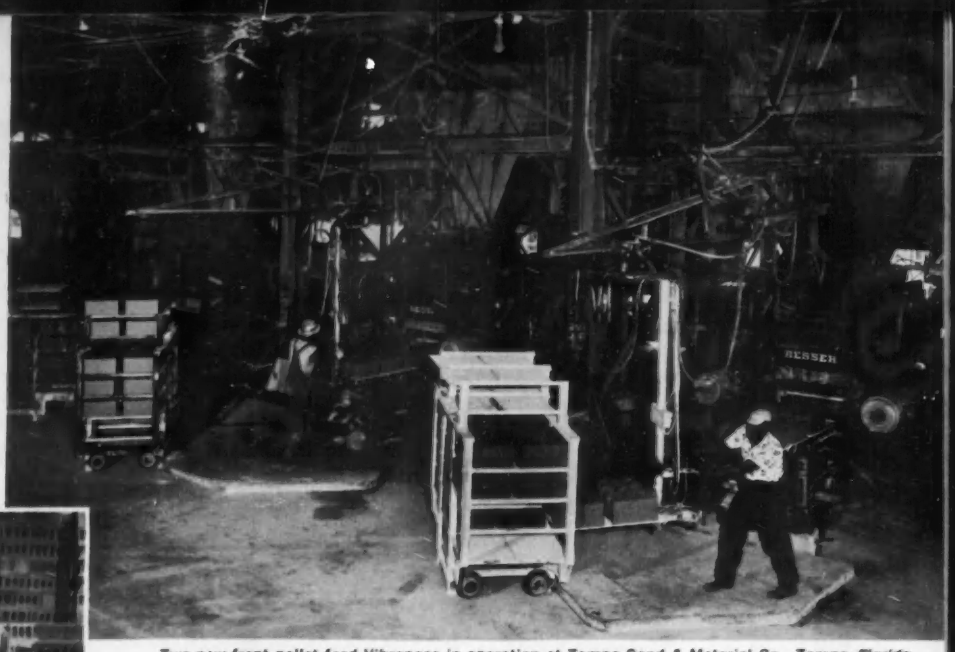
*This is the 151st of a series of advertisements featuring leaders in the concrete products industry who are stepping up block production with Besser Vibrapac machines.

Another LEADER in the BLOCK Industry



Two new front pallet feed Vibrapacs in operation at Tampa Sand & Material Co., Tampa, Florida.

Officials of Tampa Sand & Material Co. (l to r) Joe Ciprich, general foreman; Fred Poe, vice president and secretary; C. Dave Linton, plant superintendent; Charles Poe, general manager.

Florida Plant "Steps Up" Block Production

Four VIBRAPACS produce up to 49,000 block (8" or equivalent) per 8-hour day at Tampa Sand & Material Company plant.

More than a quarter century of block-making experience has convinced officials of Tampa Sand & Material Co. that it pays to use Besser Vibrapacs exclusively. As general manager Charles Poe so aptly states: *"We use Bessers because they are the Cadillacs of the Industry."*

With two Vibrapacs already in operation, two additional front pallet feed Vibrapacs were recently added. The Tampa plant works around the clock: two 8-hour shifts to make block and one shift to clean up the machines and load trucks. More than 40 Besser attachments are used for producing 75 different styles of block. *Only Genuine Besser Parts are used for replacements.*

Yes, you can make more money making block if you use Besser equipment. Ask your nearby Besser representative for literature, or write directly to the factory.

New style rack. Capacity 102 block. Each load (36 racks with 3672 block) is moved on tracks to autoclave by heavy duty lifttruck.

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A9-204

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